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The Fab4D experience opens at The Beatles Story museum

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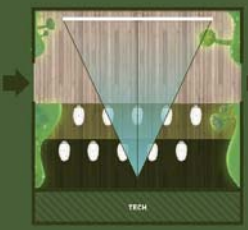

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READER SERVICES

SUBSCRIPTIONS
Julie Albone +44 (0)1462 471915

CIRCULATION MANAGER
Michael Emmerson +44 (0)1462 471932

EDITORIAL TEAM

EDITOR
Liz Terry +44 (0)1462 431385

MANAGING EDITOR
Kathleen Whyman +44 (0)1462 471918

FEATURES
Andrea Jezovit +44 (0)1462 471931

NEWSDESK
Tom Walker +44 (0)1462 471917
Pete Hayman +44 (0)1462 471931
Sarah Todd +44 (0)1462 471927

ADVERTISING TEAM

PUBLISHER
Julie Badrick +44 (0)1462 471919

ADVERTISING SALES
John Challinor +44 (0)1582 607970
Jan Williams +44 (0)1462 471909
Tessa Alexander +44 (0)1462 471903

ATTRACTIONS RECRUITMENT
Annie Lovell +44 (0)1462 471901

ADVERTISING PRODUCTION
Ed Gallagher +44 (0)1462 431385

WEB TEAM

INTERNET
Michael Paramore +44 (0)1462 471900
Dean Fox +44 (0)1462 471926
Tim Nash +44 (0)1462 471917
Katie Eldridge +44 (0)1462 471913

FUN-KIT.NET/MUSEUM-KIT.NET PRODUCT SEARCH ENGINE
Sarah Todd +44 (0)1462 471927
Martin Nash +44 (0)1462 471933
Mark Edmonds +44 (0)1462 471933

DESIGN
Andy Bundy +44 (0)1462 471924
Claire Toplis +44 (0)1462 471910

FINANCE
Sue Davis +44 (0)1395 519318
Denise Gildea +44 (0)1462 471930

The Leisure Media Company Ltd,
Portmill House, Portmill Lane,
Hitchin, Hertfordshire SG5 1DJ UK
Tel: +44 (0)1462 431385
Fax: +44 (0)1462 433909
e-mail: attractions@leisuremedia.com
www.attractionsmanagement.com
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EDITOR'S LETTER

PERFECT BEDFELLOWS

Hotels and attractions are becoming the perfect bedfellows and this month, we've had news of operators who are adding accommodation to their businesses to take advantage of growth in the short break holiday market.

Drayton Manor in the UK has announced it's been given approval to build a 150-bed hotel in surrounding parkland. In addition to a 90-cover restaurant and 60-cover brasserie, it will also have a café, banqueting suite and crèche.

The project has taken years to bring to fruition. The initial planning application was submitted to Lichfield District Council in 1997 and was approved earlier this year, but final authorisation by Government Office West Midlands has only just been granted for the scheme. The £14m hotel will be on-site by next spring, with opening scheduled for the summer season in 2011.

Elsewhere, plans to develop Chester Zoo in the UK into the largest animal and leisure attraction in Europe in a phased development to add a massive African forest bio-dome will include a 120-bed themed hotel and themed dining as part of the £225m transformation. The Chester Zoo scheme will also include a marina development on zoo-owned land next to the Shropshire Union Canal. This will broaden the market for the hotel, making it available for use by boat owners and tourists.

Hotels linked to attractions are selling well and creating valuable revenue streams, as well as increasing the balance sheet value of the business in question and helping extend length of stay

Accommodation at attractions is taking many forms, from on-site themed hotels to log cabins and from timeshare developments to campsites. All create valuable secondary revenue streams, as well as increasing the balance sheet value of the attractions business in question and helping to extend the length stay. This has obvious beneficial knock-on effects to secondary spend areas like catering and retailing.

Hotels linked to attractions are selling well and bucking the trend in the hotel market, which is being hit by the recession. This makes them an attractive proposition for hotel operating companies and is opening up opportunities for deals between attractions operators and hotel groups.

Merlin Entertainments has announced plans to attract more multi-night stays at its Alton Towers park in the UK as part of a long-term development plan.

New attractions will be added each year to encourage guests to stay longer and the group is looking into the possibility of adding more accommodation in the form of a third hotel. Its original Alton Towers hotel, which has a spa, and its themed Splash Landings waterpark hotel have proved a hit with families and the company has said it will review all the different options available to supply additional accommodation and other services.

Liz Terry, editor, attractions@leisuremedia.com

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HERITAGE NEWS

The popular attraction was gutted by fire in 2007

Cutty Sark to open next summer

The Cutty Sark, the historic London-based sea clipper that was ravaged by fire in May 2007, is set to reopen in summer 2010.

The ship was already undergoing a restoration, and the fire – caused by an industrial-sized vacuum cleaner – has added £10m (€11.7m, $16m) to the project's cost of £25m (€29m, $41m).

The BBC quoted Jessica Beverly, curator of the Cutty Sark Trust, as saying: "The ship is not very pretty at the moment as all the planks are being treated.

"The planks will start being put back in the next month. They will be painted with special paint to prevent further corrosion."

The project will see the ship raised three metres above her current position and suspended so that visitors can walk beneath to see the ship's hull design.

There will also be a glass canopy meeting the ship at the waterline and covering the dry dock with 1,000sq m space for events.

The future of Cutty Sark was secured in 2008, after Israeli shipping magnate Sammy Ofer donated £3.3m ($5.5m, €3.9m) towards the restoration.

NASA looking to move Glenn centre

The NASA Glenn Research Centre in Cleveland, Ohio, US may be moved, it has been reported.

In local newspaper, *The Plain Dealer*, it was reported that the executive director of local business group the Greater Cleveland Partnership, Jon Roman, believes that moving the centre to the Great Lakes Science Centre in downtown Cleveland would be beneficial for the region.

By moving to the Great Lakes Science Centre, NASA Glenn would benefit from the number of school children who already visit, he proposed.

Roman told the paper that such a move has been discussed since the centre opened in 1996 and NASA officials confirmed that it is among the options currently being considered.

The 6,000sq ft visitor centre has suffered from cuts in the space agency's funding, and needs to find more money to maintain its attractions, which include six galleries.

The Glenn Center was established in 1942 as part of the National Advisory Committee for Aeronautics.

Pop culture museum planned for Tulsa

A $33m (£20.7m, €23.6m) museum of Oklahoma popular culture is being planned for Tulsa, Oklahoma, US.

Bob Blackburn, executive director of The Oklahoma Historical Society – the organisation behind the plans – said that it will seek a $25m (£15m, €18m) bond issue from next year's legislature, leaving around $8m (£4.9m, €5.7m) to be raised from private sources. $1m (£612,000m €714,000) has already been pledged by the George Kaiser Family Foundation.

Despite the current economic climate, Blackburn said that they "can't pull back".

"We started talking about the Oklahoma History Center in 1991, when we were still in the recession from the 1980s," he told the local media. "We were furloughing employees when we raised the last of the money to open in it 2003."

Three sites have been considered for the museum, but no decision has been made as yet. Once funding is in place, the work is expected to take around three years.

According to Blackburn, the museum will be called The Oklahoma Pop and will act as the state museum of popular music, television, film and the performing arts.

The museum will open in 2013

Children's Museum plans revealed

The National Children's Museum – formerly the Capital Children's Museum in Washington – is set to reopen at its new home in Maryland, US, in 2013.

Part of the National Harbor development in Prince George's County, the 150,000sq ft (14,000sq m) building will represent six core zones: the environment, health, play, civic engagement, the arts and world cultures.

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MUSEUM NEWS

Charles Anderson and Ralph Appelbaum designed the expansion

Expanded Anchorage Museum opens

The US$106m (£64m, €74.4m) expansion of the 170,000sq ft (15,793sq m) Anchorage Museum at the Rasmuson Center in Alaska has opened its doors to the public.

The revamp, designed by London-based David Chipperfield Architects, incorporated a new glass-fronted façade and entrance facing downtown Anchorage. Among the features of the new building are a café, shop and two extra floors (80,000sq ft, 7,432sq m) of exhibition space.

A venue at the heart of the existing building was retained to continue providing a space for arts, music and cultural events, but there has also been the addition of a science discovery centre and a Young Learners Discovery Gallery with interactive learning opportunities.

The museum also houses a new 530sq ft (49sq m) planetarium and the 100,000sq ft (9,290sq m) Smithsonian Arctic Studies Center, exhibiting 600 Native Alaskan artifacts from the Smithsonian Institution's National Museum of Natural History and National Museum of the American Indian.

A new common created in front of the museum provides a public space for downtown Anchorage and features outdoor areas for temporary exhibits, a winter ice rink and an interpretative trail with information about native plants and grasses.

The design team consists of Charles Anderson Landscape Architecture and Earthscape and New York-based exhibition designers Ralph Appelbaum Associates and Ansel Associates.

International Dolls Museum to reopen

The International Dolls Museum in Chandigarh, India, reopened in June after a revamp.

The museum features more than 300 dolls from more than 30 countries including Denmark, Germany, The Netherlands, Spain, Russia and Korea, as well as 50 from India itself.

It boasts four sectors – The History of Dolls, Indian Dolls, International Dolls and a Children's Activity Centre – as well as the repaired German toy train and a gift shop.

The museum was established in 1985 by Chandigarh administration.

Sharjah Maritime Museum opens

The Sharjah Maritime Museum has opened in the United Arab Emirates.

Exhibits include samples of marine life, fishing tools, pearl trading, a dhow (ship) building, diving devices and photos of famous sailors and captains.

Manal Attaya, director of Sharjah Museum, told *Gulf News*: "The museum is part of a bigger plan as we want it to become a maritime park, which will include a Marine Studies Research Centre.

"The idea is to celebrate marine life and maritime history, and how we deal with it as a source of livelihood."

Ohio Statehouse Museum opens

The new Ohio Statehouse Museum has opened to the public at the historic Statehouse building in downtown Columbus, Ohio, US.

The 5,000sq ft (460sq m) museum is housed in a purpose-built space within the Statehouse and includes a number of galleries and exhibits telling the history and stories of the state of Ohio.

Galleries include the Great Ohioans Exhibit, presenting recipients of the Great Ohioan award on a large touch monitor; the Salmon P Chase Education Center, a hands-on interactive exhibit that enables visitors to explore the workings of government; and the Ohio Constitution Exhibit, which displays replicas of the original 1802 and 1851 versions of the Ohio Constitution.

The museum will be managed by the Capitol Square Review and Advisory Board. The interpretive conceptual plan for the museum was drawn up by Hilferty and Associates, while all audiovisual productions were delivered by Ohio-based Mill's James. The exhibits were supplied by Nashville-based 1220 Exhibits, while Communications Electronic Design provided the project systems.

The museum will be located inside the historic Ohio Statehouse

BALPPA NEWS

The park is to be located in County Durham

Horrible Histories park still possible

Talks regarding plans to build a theme park in County Durham, UK, based on the Horrible Histories childrens' book series have resumed by the author.

As previously reported in *Attractions Mnagement,* Terry Deary, the author of the educational series, has been planning to build an all-weather attraction since 2003, but has so far been unsuccessful.

However, according to local newspaper The *Journal,* Deary has met with the County Durham Tourism Partnership to discuss how to bring his plans for the attraction – which would take visitors on a journey from Tudor times to Victorian England – to life.

Plans are currently only in an embryonic stage, as the newspaper quoted Craig Wilson, destination, development and marketing manager for the tourism partnership, as saying: "The credit crunch is not helping us to find a private investor."

Camelot secures summer opening

Camelot Theme Park at Charnock Richard, Lancashire, UK, will remain open throughout the 2009 summer season, after it was acquired from administrators by the Carlisle-based company, The Story Group.

The park was left facing an uncertain future when it was placed into receivership in February, after previous owners Prime Resorts admitted that it had been struggling to compete for visitors with rival attractions.

Although The Story Group is looking to enter into negotiations with Chorley Borough Council in a bid to revive previous plans for a residential mixed-use development on the site, it has agreed to lease the park to Knights Leisure, a newly-formed group led by Roy Page, former chief executive of Prime Resorts.

Paultons first opened in 1983

New attractions for Paultons Park

Family attraction Paultons Park in Hampshire, UK, has launched a £1m (€1.2m, $1.6m) ride and will be opening a new children's water park later this year.

The ride, called EDGE, comprises a giant rotating disc able to accommodate up to 40 seated people and reaches heights of 15m and speeds of up to 43 miles an hour on 92m of track with a 'camelback' hill.

Opening this Easter, Water Kingdom – a 8,500sq ft (789sq m) splash park – will feature more than 20 ways of getting wet.

Colin Dawson

It's certainly been interesting

I doubt that there has ever been such a period of political turmoil such as we have witnessed in the past few weeks – MP's expenses, cabinet resignations and the enforced resignation of the speaker. It's been a period we're unlikely to forget.

However, life goes on and as things settle down it's back to business as usual with the outstanding question yet to be answered by HM Government – when's the tourist industry going to receive the recognition it deserves? I know there's no silver bullet for the the difficulties we're facing, but investment in tourism has always delivered, and some of the measures we've suggested are supported with sound evidence from credible sources. For example, a reduction in the level of VAT to five per cent for visitor attractions admission income and accommodation is forecast to be tax positive for The Treasury, and to provide earnings growth of £1.6bn resulting in 23,000 new jobs. (Study – Wason & Nevin Feb 2008.)

Additionally, the move to Daylight Saving would produce increased earnings from tourism of £2.5 to £3.5bn, with 60,000 to 80,000 new jobs. (Policy Studies Institute Oct 2008.)

These measures could produce up to 100,000 new jobs in an environment which is crying out for some good news. Prime Minister, show us you meant what you said at the Liverpool tourism event – take tourism seriously.

Colin Dawson chief executive, BALPPA

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WATERPARK NEWS

The signing of agreement in principle for the Gran Scala project in Zaragoza

Aquantica waterpark designs unveiled

Designs have been unveiled for an ambitious indoor waterpark set to open as part of the €17bn (£15bn, US$23bn) Gran Scala leisure city under construction in Aragon, Spain.

Designed by architect Cent Alantar, the waterpark will be located within the Spyland theme park, and will feature both indoor and outdoor rides.

Attractions will include water slides, pools, waterfalls and secret underwater passageways, with historic theming based on periods such as ancient Rome and Egypt and the Renaissance.

The building will be shaped like a drop of water, with a centrepiece consisting of a tall, twisting waterslide with Renaissance theming, set against an aquarium backdrop. There will also be a private relaxation area with a Roman bath theme, including spa pools, mud baths and massage. Aquantica is on track to open in 2013.

Count's Castle for Sesame Place

Sesame Place theme park in Langhorne, Pennsylvania, US, will add a new waterplay structure to the range of water rides on offer at the family park this summer.

Denver-based water ride manufacturer SCS Interactive will supply the new attraction, called Count's Splash Castle, which will be built as a multi-level interactive waterplay attraction consisting of five towers spanned by four bridges. The structure will include a tipping bucket, a variety of water slides and more than 90 guest-activated water features.

"The Count's Splash Castle is the biggest attraction in the history of Sesame Place," said Robert Caruso, general manager of Sesame Place. The park first opened in 1980 and is owned by Busch Entertainment.

The park will include a Flowrider

Wahooo! to open in Bahrain this summer

A 15,000sq m (161,500sq ft) indoor waterpark called Wahooo! is set to open in Bahrain this summer. The park, at the new Bahrain City Centre retail site, will be the largest temperature-controlled waterpark in the region, offering guaranteed 30°C (86°F) temperatures year-round.

Attractions will include the Flowrider, a 190m (620ft) Masterblaster Rollercoaster, and a four-land Matt Racer looping around the waterpark. Majid Al Futtaim Group is working with Aqua Leisure on the park.

Aleatha Ezra

More swimming lessons needed

According to the Center for Disease Control, there were ten drownings each day in the United States in 2005. According to the World Health Organization, drowning accounts for nearly 20 percent of all child injury deaths throughout the world. These statistics indicate how serious an issue drowning is to the health and safety of children.

The good news is that drowning is nearly always preventable. The key to success lies in educating consumers on the need for layers of protection. These should include limiting access to backyards with pools barriers and fences, designating an adult water-watcher and teaching children how to swim in both shallow and deep water.

The third point especially represents an important opportunity for waterpark operators. Although many aquatic facilities already offer some sort of swim lesson program, more could be done by waterpark operators to provide opportunities for children and adults to learn to swim.

Consider opening a few hours early during the week or closing one section of a pool to accommodate lessons for different age groups. Consider pricing the lessons at a level that most parents can afford.

The important thing is for parks to do something. Even if the programme starts small, preventing just one drowning is a win for the whole industry.

Aleatha Ezra is the membership manager of the World Waterpark Association

 ©cybertrek 2009

GALLERY NEWS

The extension has been designed by Pritzker Prize-winning architect Renzo Piano

Chicago Art Institute expands facilities

The US$300m (£193.5m, €220m) Modern Wing at the Art Institute of Chicago, US, has opened to public this week.

The 24,500sq m (264,000sq ft) extension, designed by Pritzker Prize-winning architect Renzo Piano has increased the museum's floor space to more than a million square feet, making it the second largest art museum in the US.

The three-storey extension, which is covered by a sun-shade system allowing natural light to flood into the building, showcases the institute's collection of modern European painting and sculpture as well as contemporary art, including film, video and new media.

Additional exhibition and gallery space provides three times more area to house the museum's Department of Architecture and Design and the Department of Photography. An interior garden provides room for rest and contemplation, while an open-air sculpture terrace featuring rotating contemporary sculpture exhibitions overlooks Millennium Park, which is also linked to the museum by the Nichols Bridgeway.

New art gallery approved for Athlone

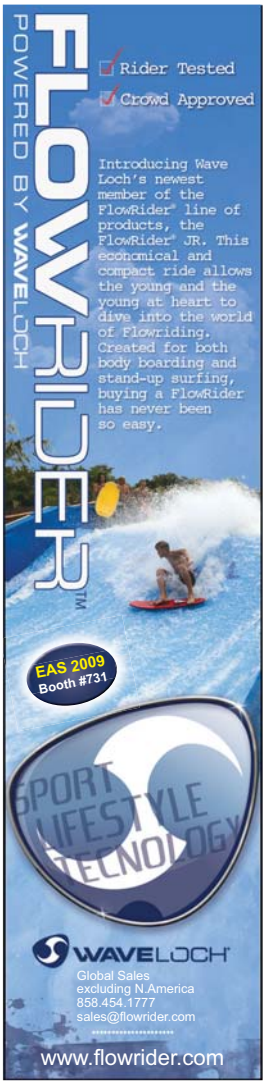
Plans for a new €3.5m (£3m, $5m) art gallery on the banks of the River Shannon in Athlone, Ireland, have been approved by Athlone Town Council.

Construction will begin in early 2010

The council-led project has been designed by Keith Williams Architects and involves the remodelling of an existing 600sq m (6,458sq ft) temperance building, called Father Matthew Hall, to feature a 115sq m (1,237sq ft) arts space with the addition of a 145sq m (1,560sq ft) gallery wing. Informal meeting areas will also be added for public and staff use as well as administration offices.

The project has been the subject of much debate among council members and the community when deciding whether the existing building, which has been unused for five years, should be removed or retained due to its strong socio-historic role in the town's history.

It has been decided that the hall will be re-rendered and re-roofed, while retaining its historical façade. Construction work on the site is expected to start in early 2010.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ZOO & AQUARIUM NEWS

The new exhibits include educational galleries for children

Chicago Oceanarium revamp completed

The Oceanarium at Shedd Aquarium in Chicago, US, reopened to the public on 23 May, following the completion of an extensive US$50m (£31.4m, €35.8m) refurbishment scheme.

More than three million gallons of saltwater were drained from the attraction as part of the nine-month project, which included the recoating of all five pools, routine maintenance to animal habitats and the installation of new heating, cooling and animal life-support systems. A new underwater Polar Play Zone has also been created at the attraction, which offers children the chance to learn about marine life through a range of exhibits and habitats, while a new marine mammal amphitheatre will be unveiled later this summer.

The new amphitheatre has seen the installation of an additional 150 seats and a dedicated VIP area, taking the venue's total capacity to more than 1,100.

Renamed Marwell opens Africa zone

Marwell Zoological Park in Hampshire, UK has opened its new African Valley zone. The opening of the new zone follows several years of planning and has taken a year to construct.

The 20-acre African Valley will see more than 35 Ellipsen waterbucks, Grevy's zebras and ostriches roam together in a new habitat. Marwell's new restaurant, Café Graze, overlooks the Valley and gives sweeping views of the animals as they wonder free together. The zoo will also shortly relocate its giraffes to the new area.

The opening coincides with Marwell revealing its new brand identity.

The park has named itself as Marwell Wildlife for the 2009 season and also revealed a new logo, incorporating a hand which "symbolises Marwell's commitment to wildlife".

The new attraction at West Midlands

Safari Park opens new outdoor arena

West Midland Safari Park, UK (WMSP) has opened a £1m ($1.65m, €1.2m) outdoor arena and sea lion show at its Seaquarium site in Rhyl, Wales. Called Sea Lion Cove, the new exhibit will offer seating for 300 visitors and is home to a colony of six seals.

The Rhyl Seaquarium is one of three attractions operated by WMSP.

WMSP's managing director, Ivan Knezovich, said other plans at WMSP include a hotel, conference centre and an indoor water park.

Georgia Aquarium opens field station

Georgia Aquarium's Dolphin Conservation Field Station (GAI-DCFS) has opened in Marineland in St. Augustine, Florida, US.

The field station includes research and veterinary facilities, quarantine pools for rehabilitating rescued animals, both land and water animal rescue vehicles and housing for researchers and staff.

The team will conduct research and will rescue and rehabilitate stranded animals in Georgia and northeast Florida. Animals deemed releasable by the National Marine Fisheries Service (NMFS) will be introduced to their habitats, while those deemed unfit will be housed by the NMFS.

The aquarium is also scheduled to complete a comprehensive US$110m (£74.8m, €82.8m) expansion of its Atlanta site in 2010.

Georgia Aquarium's benefactor, Bernie Marcus, said: "From the very beginning, the Georgia Aquarium has sought to be a world-class research institution. We are not only making a difference by educating the millions of visitors that come to the Georgia Aquarium each year, but we are expanding our commitment to conduct research and conservation in the field."

Georgia Aquarium opened in 2005 and is one of the world's largest aquariums with more than 8.1 million gallons (31,000 m^3) of marine and fresh water housing more than 100,000 animals of 500 different species.

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THEME PARK NEWS

The group operates more than 20 parks across North America

Six Flags files for bankruptcy

Six Flags, one of the world's largest amusement and water parks operators, has filed for Chapter 11 bankruptcy protection in the US as part of attempts to clear debts of US$2.4bn (£1.47bn, €1.73bn).

In an open letter to employees, chief executive Mark Shapiro assured workers that there would be no job cuts as a result of the company's decision, while all of the group's North American attractions will continue to operate "as normal".

Despite generating US$275m (£168.3m, €198.3m) in 2008, the company was forced to pay US$175m (£107.1m, €126.2m) in interest on its debt, as well as investing US$100m (£61.2m, €72.1m) in improvements and maintenance at its amusement and water parks.

The company also revealed that the decision to file for bankruptcy protection was motivated by its current inability to refinance debt of more than US$400m (£244.7m, €288.6m) due within the next year as a result of the current financial climate.

SG takes over Universal Japan

The Universal Studios Japan theme park in Osaka has been acquired by SG Investments, an investment fund unit of Goldman Sachs, for US$1.2bn (£725m, €840m).

SG Investments will buy 2.2 million shares, or 98.5 per cent, in USJ Co, which operates the park. It plans to buy the remaining shares in USJ in order to make the park operator a wholly owned subsidiary.

The park opened on 31 March 2001, attracting 11 million guests through its gates in its fist year.

Since its opening, however, the park has struggled to compete with other major parks in the region.

According to the park operator, visitor numbers fell 6.2 per cent to 8.1 million during the fiscal year that ended in March 2009.

Construction work on a Universal Studios theme park in Singapore is on schedule and the park is set to be completed by summer 2010.

There are also plans to open a Universal park in Seoul, South Korea, sometime during 2012.

New theme park and zoo for Manila

A new zoo and theme park complex is currently being planned for development in Manila in the Philippines.

Manila's mayor, Alfredo Lim, announced that his parks and recreation bureau's chief engineer, Deng Manimbo, had been appointed to flesh out the plan with Japanese theme park company Okamoto.

The theme park, completely funded by Okamoto, would be built on a 4,000sq m (43,000sq ft) lot adjacent to the existing Manila Zoological and Botanical Garden, and under terms of the agreement, the Japanese firm would fund a refurbishment of the zoo.

Despite putting no money in, the city will receive half of revenue generated by admission fees.

CNL acquires Hawaiian Waters

CNL Lifestyle Properties has acquired Hawaiian Waters Adventure Park in Kapolei, on the island of Oahu, US, from a subsidiary of the Village Roadshow.

Although now owned by the US real estate investment trust, operation of the 29-acre waterpark has been leased back to the Australian global entertainment company. As part of the deal, Village Roadshow will continue to operate the site and will rebrand the park as Wet 'n' Wild Hawaii.

"This transaction is a home run for both sides," said Byron Carlock, CEO of CNL.

"We were looking for a vibrant operating partner with which to grow our portfolio of properties. Hawaiian Waters is exactly the kind of quality attraction we look for, where families can make lasting memories."

Graham Burke, managing director of Village Roadshow, added: "CNL is the perfect partner for us as we grow our highly successful water park business in the United States. This transaction provides us with financial flexibility, and a partner that shares our core values and aspirations."

Village Roadshow will operate the site

Village Roadshow now plans to open a second Wet 'n' Wild waterpark in Phoenix, Arizona, US.

 ©cybertrek 2009

Macquarie owns and operates the Dreamworld theme park

Macquarie Leisure to break away

Macquarie Leisure Trust Group, the owner of Dreamworld theme park and WhiteWater World water park on Australia's Gold Coast, has unveiled plans to break away from parent company Macquarie Group.

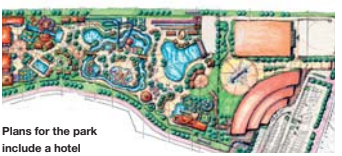
The trust will pay AUD$17m (£8.3m, US$13.8m, €9.8m) to acquire shares and management rights, which means it will no longer have to pay an annual fee of AUD$3m (£1.5m, US$2.4m, €1.7m) plus performance fees to Macquarie group. The group will then seek to raise AUD$41.7m (£20.4m, US$33.7m, €24m) through an underwritten placement to institutional investors to reduce debt and pursue its growth strategies as a standalone entity.

The company recently raised AUD$30m (£14.7m, US$24.3m, €17.2m) to reduce gearing through a sale and leaseback deal on its AMF Bowling sites. Greg Shaw, CEO of Macquarie Leisure Trust, said: "Since its inception as a property trust with essentially passive investments in leisure assets, we've evolved into a portfolio of operating businesses with acquisitions such as AMF Bowling Centres and Goodlife Health Clubs.

Theme park proposed for Kamloops

A CAN$200m (£111m, US$175m, €126m) theme park resort is set to be built in Kamloops, British Columbia, Canada.

The 17-acre Sedric's Adventure Resort & Theme Park will feature rides designed by WhiteWater West, a 300-bedroom Marquee Hotel featuring a 25,000sq ft (2,320sq m) indoor waterpark designed by Canadian architect Nick Milkovich, and a 1,000-capacity convention centre.



Plans for the park include a hotel

The 'wallet-free' resort, where guests will wear an electronic wristband to purchase items and access lockers and hotel rooms, will centre on a 150ft (46m) Liquid Fireworks Fountain, designed by Florida, US-based Waltzing Waters.

Additional facilities will include a small hotel and restaurant aimed at the family market, two drive-through restaurants and 12,000sq ft (1,115sq m) of retail and office space. With a daily capacity of 8,500 guests and projected visitor figures of 455,000 visits per year, the facility is expected to bring in CAN$80m (£44.6m, US$70m, €50.4m) annually to the local economy and employ up to 1,500 workers in the high season. Construction will take five years over five phases.

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SCIENCE CENTRE NEWS

The revamp will include the introduction of new galleries

£100m revamp for Science Museum

The Science Museum in London, UK is to undergo a £100m (US$165m, €117m) modernisation. Designed by Wilkinson Eyre Architects, the designs for the revamp are intended to match with wider plans for London's South Kensington area, and will boast a new glass feature called the Beacon on the Exhibition Road façade.

The museum will feature a new rooftop cosmology gallery called SkySpace and there will also be two other new galleries: Making Modern Communication – which will teach visitors about the technological transformations that have reshaped society since the 1830s – and Making Modern Science, which will focus on the "very essence of science" and shed light on theory, practice and ethics.

The existing Making Modern Flight and Making the Modern World galleries will be expanded and a new façade will also be built, with multiple entrances to ease congestion, as well as three new sets of lifts inside. The project is expected to be completed by 2014. *(For more on the Science Museum plans, see interview P20)*

Science North's grants doubled

The government of Ontario is to double the funding of the Science North science centre in Sudbury, Ontario, Canada.

Ontario premier Dalton McGuinty announced that the science centre's annual provincial operating grant will increase from CA$3.4m (£1.9m, US$2.8m, €2.1m) to CA$7m (£2m, US$3.7m, €4.2m), beginning in the 2009-10 fiscal year. McGuinty also announced an additional CA$340,000 (£179,500, US$296,000, €210,000) one-time contribution in the current fiscal year. The new funding will result in a 24 per cent increase in Science North's $15m (£8.4m, US$12.2m, €9.4m) annual operating budget.

Science North celebrated its 25th birthday in June

"The new operating funds announced by Premier McGuinty offer Science North a once in a generation chance to fully meet our mandate to serve all of Northern Ontario," said Jim Marchbank, Science North CEO. "We are very grateful because, for the first time in 25 years, Science North will be able to invest in the resources required to expand science program outreach to schools and communities throughout the North, from Quebec to the Manitoba border."

Asger Hoeg

Our biggest challenge yet

The climate change challenge is frequently communicated by the media as a prediction problem. That is, are we certain it's happening? In actual fact, it's a risk problem – how big a risk are we, as a global society, willing to accept?

Most climate scientists believe the risks associated with climate change are very large, but the majority of people don't consider climate change to be an urgent matter requiring action. So, there's a mismatch between scientific and public understanding of the risks associated with climate change.

This mismatch underlines the important task and role of the European science centres. These centres must communicate the essence of the climate change challenge to the European citizens – to both school children and to their families.

At Ecsite's Directors Forum, which takes place at the Experimentarium, Copenhagen on 20th and 21st November, the directors of the 90 members of Ecsite will try to resolve this by discussing how best to communicate the science behind the climate change and how to communicate the risk that the climate change imposes upon us.

The keynote speaker of this forum is professor Katherine Richardson, professor at Copenhagen University and chair of the Danish Government's Climate Commission.

Asger Hoeg, executive director, Experimentarium , Denmark

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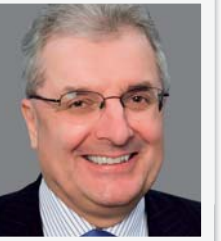
SET YOUR SIGHTS

CHRIS RAPLEY

To mark the Science Museum's centenary, director Chris Rapley is overseeing the museum's most ambitious transformation of the past 100 years. He speaks to Andrea Jezovit about his plans



It's 26 June, the first day of the Science Museum's centenary celebrations, and the walls of the 100-year-old London institution are echoing with shouts and laughter from the larger-than-average crowd of schoolchildren and families who've arrived to take part in the festivities. The party includes science shows, musical performances and a new 'Centenary Journey' trail guiding visitors through the ground floor galleries past 10 iconic objects from the last 100 years.

I meet Chris Rapley in the centre of the buzz, at a table in the building's Revolution Café, which looks out onto Energy Hall and its giant steam engine. It's a busy day for the museum director, and not only because of the museum's centenary party. He's just come from a press conference that saw UK prime minister Gordon Brown call for $100bn (£61.2bn, €71bn) a year in aid to help the developing world cope with climate change ahead of December's UN climate conference in Copenhagen.

A climate scientist and former director of the British Antarctic Survey, Rapley sees the Science Museum not only as a collection of objects, but as an agent of essential change as the nations of the world prepare for Copenhagen, where they'll negotiate how to tackle climate change in a way that's fair to developing countries. "Science and technology have a big role to play in that. We see ourselves as being a forum for the debate, helping people learn about what the options are. I'm trying very hard to connect us as strongly as I can with the political, corporate and NGO efforts to debate this issue," he says. "I see the museum as much more than just a passive box where people can have a day out and a bit of fun. We have the opportunity to help people understand what science and technology is and change their lives, and start asking questions about the big issues."

When it comes to educating people about science and changing lives, Rapley has some lofty ambitions – it's his intention to make the Science Museum the best place in the world for people to enjoy science. It's a goal he hopes to achieve through a landmark two-phase modernisation of the museum, its first major refurbishment since 2000, when the Wellcome Wing was added in a £65m ($106.2m, €75.3m) extension.

Designs from Wilkinson Eyre Architects were recently unveiled for the second phase of the project, the £100m ($164m, €116m) 'Museum of the Future' project, which will see the addition of multiple new galleries: a rooftop cosmology gallery called SkySpace; Making Modern Communications, which showcase the technological transformations that have reshaped society since the 1830s; Making Modern Science, which

The new design includes a gold rooftop cosmology gallery called SkySpace

 ©cybertrek 2009

Designs for 'The Museum of the Future' (above) have been provided by Wilkinson Eyre Architects

will teach visitors about scientific theory, practice and ethics; and two new treasury galleries. The existing Making Modern Flight and Making the Modern World galleries will be expanded, and an iconic glass feature called the Beacon will be built on the Exhibition Road façade.

Work is already underway on the transformation's first phase, which will include refurbishments of the contemporary science Antenna gallery and the biomedical Who Am I? gallery, set for June 2010. Rapley's enthusiastic about a visionary new gallery entitled Climate Change and the Energy Challenge, which opens in 2011: "It's going to change the way people think, talk and act about climate change."

A NEW STRATEGY

Rapley's vision for the museum began soon after he joined as director in September 2007 following his 10-year stint as British Antarctic Survey director. (He's also been executive director of the International Geosphere-Biosphere Programme at the Royal Swedish Academy of Sciences in Stockholm, and professor of remote sensing science at University College London.) "I had the advantage of parachuting in from a completely different world, and I needed to ask some dumb questions. Like, what is the Science Museum for?" He wasn't surprised when noone was able to give him a crisp answer. "That question probably hadn't been asked for a while."

Rapley wanted to clarify what the museum stood for, reorganise it and "do something really, really useful." He and his staff brainstormed the new strategy, using insights from the wealth of visitor research that's constantly going on at the museum.

One necessity was to help visitors find their way around the building, which is known to be difficult to navigate. Vertical lift access and electronic signage will be improved, but the team has also come up with the concept of the Orientation Space – a room at the museum's entrance with sample objects and exhibits from each of the museum's different galleries, to help visitors decide which parts of the museum they want to explore. "The idea is to be as engaging and high-tech as possible, to simply lay out our shop window so people can plan how to spend their time here."

Ensuring the new design is environmentally friendly has also been important. "Any organisation that puts on a major exhibit on climate had change better be sure it can fulfill its carbon credentials," he says. This will be a particular challenge, as the museum is located in an old building that Rapley says can never be made completely environmentally sound. However, he plans to make it as sustainable as possible. Work is being done on utilising lower energy

ABOUT CHRIS RAPLEY

What are your hobbies?
I've always been a keen photographer. I have tens of thousands of negatives and slides, which I'm slowly putting into an organised collection of everything I've taken photos of in my life right back to when I was a kid. I'm also a great technophile. I love gadgets.

What's your favourite food
Italian food. I rarely eat red meat and am concerned about fish and the future of the world's oceans. One of my contributions to the future is that I'm becoming a pasta-orientated vegetarian.

Favourite film?
Without any question, *Dr Strangelove* and *The Life of Brian*. I would find it difficult to choose between those two.

What's the best piece of advice you've ever received?
The people who are successful in this world are the ones who turn their greatest setbacks into their greatest successes.

The museum created an online game called Launchball to celebrate the relaunch of its Launchpad gallery (above)

lighting and the museum is working with other organisations in the area to explore using the aquifer that sits below as a heat reservoir. Heat would be pumped into the reservoir to cool the building in summer, and pumped back up in winter.

Funding is another challenge. The museum receives a basic yearly grant from the DCMS, which allows it to operate and provides less than £1m ($1.6m, €1.2m) to refresh galleries. But at a cost of between £3,000 (£5,000, €3,500) and £7,000 ($11,400, €8,100) to refresh 1sq m of the 25,000sq m museum, £15m ($24.2m, €17.4m) to £20m ($32.2m, €23.2m) a year would be required to refresh the museum at the fairly leisurely pace of once every 10 years, making external sponsors vital. The museum has launched a centenary fundraising appeal to help meet its goals – £100m ($164m, €116m) over five years is needed for the Museum of the Future, with an additional £50m ($82m, €58m) for other parts of the museum. "If you can't be ambitious in your centenary year then you can't be at all," Rapley says.

YOUNG AUDIENCE

Rapley's goal is that by 2012, every 14-year-old in the UK will have had a learning experience with the Science Museum. The site is already the most visited in Europe for school visits, hosting 360,000 school-children a year with their teachers, and another few hundred thousand children who visit with parents. "So how do you scale that up to every child across the country?" he asks. "By training teachers. We have a big programme where we provide teachers with teaching resources. And you do it by providing experiences on the web, because pretty much every kid these days has access to a computer."

"WHATEVER YOU'RE DOING SHOULD BE INTERESTING, AND IF IT CAN BE WORTHWHILE AS WELL THEN THAT'S FANTASTIC. SEEING A GREAT ORGANISATION LIKE THIS DOING SOMETHING USEFUL IS WHAT GIVES ME MY SATISFACTION"

The museum has already had major success on the web. A year ago, to coincide with the relaunch of its interactive Launchpad gallery, it debuted an online educational game called Launchball that's since had 10 million players and become a cult phenomenon in the international computer gaming world. The game has won top awards at Museums and the Web and the South by Southwest Interactive Festival and will soon be available to download onto the iPhone. "It's a powerful example of how the web can connect us with people who may never visit the museum," Rapley says.

The Science Museum has done a good job of impressing those who do visit. The museum won gold in the Visit London Visitor Attraction of the Year category at the 2008 Visit London Awards and silver in the Large Visitor Attraction of the Year category at the Enjoy England Awards for Excellence 2009. The *Evening Standard* voted it as the top spot for London 25- to 35-year-olds to take a date. Though the museum's audience is mainly children and families, it features galleries aimed specifically at adults, and once a month late openings are held with adult programming.

Putting his stamp on the museum as director has been satisfying for Rapley, who was attracted to the role because he was looking for something interesting, worthwhile and challenging to do. "Whatever you're doing should be interesting, and if it can be worthwhile as well then that's fantastic. You should have a sense of satisfaction at the end of the day, and seeing a great organisation like this doing something useful is what gives me my satisfaction," he says. If he's able to realise his big ambitions for the museum, he'll undoubtedly be satisfying thousands of visitors, too. ●

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WHEN AND HOW AM I GOING TO GET PAID?

As the global recession continues and unfinished projects get shelved, some companies are failing to receive timely payment for the work they've done. The problem is made worse if payment isn't received for work completed overseas. We speak to industry experts and ask how bad the situation is and what the future holds for the sector

DAVID WILLRICH
Managing director
DJW

The Middle East, Dubai in particular is a dynamic and exciting place to work, with many ambitious well funded projects to be undertaken. The common theme for all projects, however, is the payment process!

Generally it starts well, but as a project progresses, payments start to slow. Pressure to complete is then piled on, with frequent promises that all payments will be resolved, as the project management team sense that consultants or contractors may start to slow their progress if payments are not forthcoming.

Having recently joined the TEA Board for Europe and the Middle East, it is very apparent that European companies are owed considerable amounts of money, to the point where there is support and sympathy for a name and shame game to start.

Over the years I have been asked by many people in the industry what it is like doing business in the Middle East, with payment being top of the list. My answer is that we've always been paid, but final payments can take up to two years to get, assuming you are persistent enough and moving around the region enough to make it cost effective to keep chasing your money.

A point to remember is that the payment process is traditionally slow in the Middle East, as the entire business culture in the region is different. Of course you can make strict rules about your payments versus the work you do, but there will come a point where payment will slip and you then have to start making some business decisions as to whether you pull out or continue. This is not always a black and white decision as the cost of re-mobilization could be high, particularly if you have a specialist team and have other projects where you need to share these resources.

Re-mobilization then becomes another source of negotiation as of course the client never wants to pay these costs.

Dubai has suffered in the current world slump, with all major projects going on hold and many companies now chasing money. In many cases, the gloomy reality is that there are a number of companies that will not get paid. Rumours are of course rife with regard to payment policies for different projects, others it is known have the money available to clear debts but are not wishing to do so at the current time.

Within the TEA there have been discussions about keeping a register of major projects that are failing to pay, that members can check whenever the re-start may come. Of course there is a limit to how effective this will be and the fact that despite what is said off the record, companies will make their own business decisions as to how they move forward.

Although no formal register exists, many members and specialist companies operating in the theme park business can quite easily reel off a list.

Government support for small companies working abroad is non-existent, therefore, a very useful role that local Embassies could fulfil is to look at the amount of money owed to their national companies and show there is support and even assistance, for these companies in recovering what they are owed.

Nobody in the industry wants to do or say the wrong thing that could bar them from future work, or that could prevent payments being made, but ultimately they just want to be paid for their work!

We've had some very good clients and project management teams that have set payment rules and followed them to the letter. Unfortunately they're in the minority. I will name one major Dubai company for being the best we have worked for – Majid Al Futtaim projects, managed by Mace, have always been well managed and run like clockwork on payments and the business format in general.

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KEITH GRAY

Director
Haley Sharpe Design

Dubai and the surrounding region has been a huge draw for our industry over the past five years. There was nowhere else that was investing similar sums in attraction projects, and many in our industry invested a great deal in developing business in the region.

The end of 2008 saw an unprecedented shut-down of almost every major project and we are aware of many companies that are now facing payment problems from clients whose cash flow has frozen. Many of the major projects, even those by government-backed developers, appeared to have fragile cash flows, reliant on the banks to bridge financing from real estate sales, and the banks have now withdrawn support.

We hear many stories of UK and European companies that are now being told that clients don't have the money to pay. There's very little that these companies can do, apart from wait – legal action is too lengthy and too costly.

This returns the problem back to UK shores. The government offered plenty of initiatives to support UK companies in developing overseas business, but seems to be doing little now that overseas business is drying up. I understand the government's loan guarantee scheme, to support companies suffering from non-payment, is being thwarted by banks that are concentrating on short-term intervention at punitive rates. We need government support to recover debts.

I think what will happen is that when the major projects return in places such as Dubai, clients will see a more aggressive stance on payment terms from UK companies, and financing costs will be added, resulting in increased project costs.

Everyone involved in business in the Middle East is hurting. But professional services companies are hurting everywhere. It's the scale of hurt, especially after the good times, that is the main factor. Many companies survived and thrived on business in the Middle East and other hot spots over the past few years. Now that the pipeline of cheap credit has been turned off we all need to reassess and adjust.

The challenge facing us all is that the global downturn means that everywhere is affected. Just as a rising tide raises all ships, so ebb tide lowers them. We are all in the same position and there are too many people chasing too few projects.

There are still projects out there in the Middle East, Asia and in the more mature markets, but the world is a whole lot more competitive now.

It's not going to be easy for the next few years, but there will be opportunities. Life will be about how you perceive it. Focusing on what has gone is only going to leave a sour taste. We need to be realistic about the challenges facing us, get back to business basics, make some tough decisions and keep delivering quality work. And it will be important to do our homework better, understand the markets and help clients focus on realistic, achievable projects rather than pipe dreams.

DAVID CAMP

Director
Economics Research Associates

So the party is over? It was fun. Lots of people made lots of money. The reality was that it was never sustainable; not at the scale being planned. The truth is that there are still opportunities in the Middle East and a market that is not being satisfied. Wild Wadi and Dubai Aquarium are pulling in visitors. But Dubai doesn't need 20 more attractions; just a few.

DURRELL WILDLIFE CONSERVATION TRUST

Staff at Durrell's Jersey headquarters work with endangered species, welcome visitors and raise awareness about conservation around the world. As the organisation celebrates its 50th anniversary, Vicky Kiernander speaks to its top team

NAOMI WEBSTER CONSERVATION OFFICER

What's your day-to-day role?
I spend my days communicating with a wide variety of audiences: visitors, school groups, members – that's anyone from ages three to 103! I talk about the animals we have here, the threats they're facing and the conservation work we're doing here in Jersey and overseas.

We communicate our messages to visitors through a variety of formats – animal talks, signage, volunteer guides, our guide book and the animals and their enclosures. All these combine to offer information to the visitor and push people a little further along their own path of understanding. Hopefully this will turn into more practical support for conservation, whether it's becoming a member, adopting an animal, recycling more, using the car less or doing some conservation work in their local area.

How do you work with schools?
We engage with as many schools in Jersey as possible, and with as many schools from elsewhere as we have time for. Schools visit us from the UK, France and Guernsey. By teaching children about animals, we hope to encourage an interest in wildlife conservation so that they'll support conservation and help to protect endangered species and habitats.

College groups from the UK also visit for several days taking part in a series of talks and activities, covering topics requested by the teaching staff such as animal welfare, the role of zoos and in-situ conservation. They learn from our staff, go behind the scenes and conduct their own mini-research projects.

"WE COMMUNICATE OUR MESSAGES THROUGH A VARIETY OF FORMATS – ANIMAL TALKS, SIGNAGE, VOLUNTEER GUIDES, OUR GUIDEBOOK AND THE ANIMALS AND THEIR ENCLOSURES. ALL THESE COMBINE TO PUSH THE VISITOR ALONG THEIR OWN PATH OF UNDERSTANDING"

How else do you interact with visitors?
We run various activities for different age groups. Three- to six-year-olds can learn about animals through games and activities at our weekend Dodo sessions [a children's club], seven- to 12-year-olds can take part in activity weeks over the school holidays, and 12- to 16-year-olds have the opportunity to help clean out our reptiles and invertebrates, make enrichment food parcels for animals and go behind the scenes in the animal departments as part of our Keepertime programme

Our other activities include Behind the Scenes tours, which give the public a greater insight into our work, and Member Weekends, which incorporate staff talks, behind the scenes tours and hands-on activities. As well as being fun to do, these activities teach people about our conservation work and encourage their support of our mission.

LUCY SINCLAIR VISITOR CENTRE MANAGER

What's your day-to-day role?
As visitor centre manager at Durrell I manage a team of up to ten people who provide all the service functions in this area, including admissions sales, retail sales, online sales, membership and animal adoption applications, and general enquiries. I liaise with our education team and animal staff to ensure that the team has up-to-date information on the trust's work in Jersey and overseas, and about our animal collection. I also work with various other departments and our volunteers to provide guided tours, VIP visits, Behind the Scenes tours, school group visits, etc. I'm responsible for buying goods for the gift shop and evaluating the retail prices. The team also gets involved with special events both on-site and occasionally off-site, which can involve anything from handing out leaflets to dressing up as a bear or a lemur to promote Durrell!

What does the visitor centre entail?
The visitor centre helps Durrell in its conservation work by distributing information about its work worldwide. There are information films showing in the entrance foyer, guide books and newsletters available for purchase, and of course the direct interaction with members of staff to help get our mission statement across to visitors.

How important is the visitor centre in the overall work of Durrell?
The visitor centre plays a hugely important role for Durrell as the first and last point of contact for all our visitors, so we take a big part of the responsibility for attracting repeat visits, signing up new members, and promoting the animal adoptions, all of which raises funds to help the Trust continue its overseas work.

How many visitors does Durrell attract each year?
We have around 185,000 visitors to Durrell excluding private events, corporate functions, weddings, conferences etc. Almost all these visitors pass through our centre.

How do you get people to understand that Durrell is about wildlife conservation and is not a conservation theme park?
Our website and printed material emphasises this, but the most important way of communicating this message to visitors is via the front of house staff. They help to explain that visitors will see a unique collection of highly endangered species and that Durrell is working not only on a captive breeding programme here in Jersey but that we are involved in working within communities overseas to conserve wild populations of endangered species.

What are Durrell's plans for redeveloping the visitor centre?
We hope to expand and improve the existing building, perhaps to include a coffee shop and visitor toilets at the main entrance, but detailed plans are still under discussion. I hope the improved centre will help us to fast-track admissions for existing Durrell members, improve admissions and information services, and incorporate a visitor experience at the main entrance highlighting Durrell's status as an international charity, giving a clearer idea of our mission.

KELLY MANUEL HEAD OF MARKETING

What's the role of the marketing department at DWCT?

As a team our goal is to raise awareness and understanding about Durrell and its conservation work, ultimately to increase income to the trust. This assists the organisation in fulfilling its mission of saving species from extinction.

Our audiences are local, national and international people on every level but particularly those interested in conservation, are familiar with Gerald Durrell and his work and want to visit actually or virtually as a result of our marketing. We also act as a support mechanism for other departments at DWCT to ensure they have the correct tools to achieve their objectives. This may be a piece of marketing material, or may involve working towards a higher brand profile so that our conservation and fundraising teams can be successful.

How are you commemorating the trust's 50th anniversary?

Activities relating to our 50th anniversary are hugely important to our work. We're a charity and can't survive without finding ways to generate income to go towards our mission. Initial meetings took place in early 2007 with representatives from DWCT to discuss the first steps in organising a 2009

celebratory year. Workshops were set up to determine the opinions of key stakeholders and as result, we developed a hook to hang a campaign on, which was 'It's Time'.

'It's Time' is a rallying call to prompt everyone, everywhere into action. DWCT has achieved so much. In Jersey, DWCT's major breeding firsts include Alaotran gentle lemurs, Rodrigues and Livingstone's fruit bats, Rodrigues fodys, Madagascan flat-tailed tortoises, Round Island boas and Montserrat mountain chicken frogs. The trust has also brought a number of species back from the brink of extinction.

But this is only the tip of the iceberg. With the planet's biodiversity in more need of help than ever, what we all do to contribute to the earth's health and wellbeing will be critical. Communications over the course of the year will focus on what DWCT has achieved, what DWCT will achieve in the future and how audiences can get involved to start making a difference.

What activities and events support the campaign?

We've planned a host of events, including a party for 250 children members, a 50th anniversary dinner attended by Sir David Attenborough, a ball, a concert and Durrell Day in July, where we are inviting the whole island [Jersey, UK] to Durrell for free. There will be stalls, entertainment, food stands and family activities.

We're producing a 50th anniversary rose called the Durrell Rose, which is currently growing in our grounds, and we've produced a catalogue of 50th anniversary products for sale including 'It's time' beer, 50th anniversary It's time champagne, wine and jewellery. We've also launched a fundraising campaign together with Jersey Dairy. All of its small blue milk cartons can be turned into a money box and when full can be donated to Durrell for a chance to win a VIP tour and family membership.

ABOUT DURRELL WILDLIFE CONSERVATION TRUST

World famous author and naturalist Gerald Durrell founded the Durrell Wildlife Conservation Trust in 1959 out of a desire to show that things could be done better. His mission was to save species from extinction, so he created a safe place for the animals on the island of Jersey in the Channel Islands. Headquartered in a 16th century manor house and surrounded by 32 acres of park and farm land, he dedicated the site to breeding endangered species as one means to ensure their survival. The site receives185,000 visitors a year.

In 1963 Gerald Durrell turned his 'zoo' into a charitable trust, the Durrell Wildlife Conservation Trust. It's established breeding groups of many species of endangered mammals, birds, reptiles and amphibians and has pioneered the return of their progeny to the wild. The trust established education programmes, from the teaching of schoolchildren at the site in Jersey to awareness campaigns among locals in the homelands of endangered animals.

Developments for 2009

In addition to the It's Time campaign, DWCT is working on small site developments this year to refresh its Jersey headquarters. This includes the new meerkat exhibit – Discovery Desert, which can be seen from the terrace of the café, and includes a 'bubble' to give visitors an up-close view of the troupe. Later this year, the enclosure will also house yellow mongooses, native to mainland Africa and a close cousin of the meerkat.

As well as this, the trust is currently constructing a new enclosure for red river hogs, a species not previously seen at the Durrell headquarters. The enclosure is due to open in mid-July. Finally, the trust will redevelop the Walled Garden, transforming it into a Madagascan Experience to showcase the trust's vital conservation work on that island.

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JAMIE COPSEY HEAD OF TRAINING. INTERNATIONAL TRAINNG CENTRE (ITC)

What's your day-to-day role?
I'm responsible for developing new courses in conjunction with our conservation department: determining the content, sourcing funding and finding lecturers. The conservation department has identified where the world's greatest threatened endemic species are, which we call TopSpots. This determines where we need to work and the conservation skills required, which influence our course offering. We run 10 courses a year and some 1,700 conservation professionals from 122 countries have gone through our programme since the ITC launched in 1985. We've also taught around 750 UK university and college students.

How has conservation training evolved at the ITC?
When we launched, the idea was to develop people's husbandry skills so they could take better care of animals in captivity. This progressed to teaching mid- and senior- level conservationists. Our experience of running conservation projects shows the successful ones are led by people with good communication, financial, planning and negotiating skills. Conservation is all about people and our courses increasingly focus on project management skills to enable conservationists

to work better with people, understand their needs and find common ground. That's where conservation needs to go in the future if we are to make a difference.

How does your work help the trust achieve its aims?
DWCT has already saved six species from extinction and is currently ensuring the survival of more than 30 endangered species worldwide. Last year the Mauritius Fody and Echo Parakeet were downgraded from critically endangered on the IUCN's (International Union for Conservation of Nature) red list of threatened species as a direct result of our work. We try to equip people with the many skills needed for this kind of work so they can apply them in the wild. For example, a few participants of a course we ran in the South Pacific applied for a grant following the training and went on to rediscover the Pohnpei mountain starling on the island of Pohnpei.

What are your future plans?
We're developing a support network for graduates of our courses. It can be difficult when they return to work after enjoying their experience here. Very often they lack resources and feel discouraged, so we want to give advice and put them in touch with funding sources. We also want to open our courses up to more people outside of the conservation world such as environmentally aware companies and lay conservationists.

We also want to identify more conservation entrepreneurs – people who swim against the tide and make things work regardless of where they're from or how little money they have. For example, a Bolivian who completed a couple of our courses is now setting up breeding facilities for the critically endangered Lake Titicaca Frog. We want to identify more people like this, bring them to Jersey and offer internships to give them specific skills training. ●

A PAUSE IN CONSOLIDATION?

Strong organic growth, heightened merger and acquisition activity by leading European operators and international expansion are all boosting the visitor attractions market. Deloitte & Touche's Simon Harrison and Nigel Bland consider the opportunities and challenges ahead

When considering the recent levels of merger and acquisition activity, it's interesting to compare the changes in the European landscape between 2001 and 2008. As Disneyland Resort Paris celebrated its 15th anniversary in 2008, it remained the most popular visitor attraction destination in Europe, with 15.3 million visitors.

Behind Disneyland Resort Paris, four major European operators have significantly altered the shape of the sector over the last six years. In 2001, 56 attractions generating estimated revenues of €200 m (£170.5m, $277.5m) were operated by Merlin Entertainments, Parques Reunidos, Grévin et Cie and Aspro Ocio. By 2008, these same operators had over 175 visitor attractions with estimated revenues of approaching €1.7 billion (£1.5bn, $2.4bn). This eight-fold growth in revenues has been driven by aggressive sector consolidation via single asset and portfolio acquisition strategies. Over the last three years, these four operators have undertaken around 20 transactions involving over 70 attractions.

New ownership may be sought for Busch Entertainment

PRIVATE EQUITY

Merlin has led this wave in terms of the financial value of transactions, while Parques Reunidos has been the leader by volume of parks acquired. A common characteristic of the two leading consolidators is their ownership by private equity. With the financial support of Blackstone for Merlin and Candover for Parques Reunidos, both operators have pursued aggressive buy and build strategies. In the last three years, Merlin has acquired the Tussauds Group for £1bn ($1.60bn, €1.2bn), the London Aquarium and Gardaland, the largest theme park in Italy. These transactions have contributed to Merlin increasing its scale by over tenfold, making it the world's second largest visitor attractions operator, with 35 million visitors and revenues of €830m (£708m, $1.2bn) across 57 attractions – a big step up for a business with revenues of €40m (£34m, $55.5m) and 20 attractions in 2001. On 1 July, Merlin announced it will open a new Legoland Discovery Centre in Manchester.

Since its sale by Advent International to Candover and Bourne Leisure for £606m ($986m, €711m) in March 2007, Parques Reunidos has accelerated its acquisition programme. Compared to the addition of three parks in the two-year period prior to the sale, Parques Reunidos has subsequently acquired a further 43 attractions. Over the same period, Aspro Ocio acquired eight new attractions in Europe, while Grévin et Cie has focused on its own organic growth since its Star Parks deal in May 2006.

DIVERSIFICATION

The two leading consolidators have both broadened their focus away from their traditional Western European heartland and gained

FIG 1 **SUMMARY OF OPERATORS – 2001 VS 2008**

	2001			2008		
	Ownership	**Revenue (m)**	**No. of sites**	**Ownership**	**Revenue (m)**	**No. of sites**
Disneyland Resort Paris	Listed	986	1	Listed	1,310	2
Merlin Entertainments	Private Equity	40	20	Private Equity	830	57
Parques Reunidos	Public	58	10	Private Equity	509	67
Grévin et Cie	Division of plc parent	58	7	Division of plc parent	226	20
Aspro Ocio	Private	44	19	Private	122	39
		200	**56**		**1,687**	**176**

Source: Company websites, MINT

Note i) Financial results for Grévin et Cie and Aspro Ocio relate to 2007 ii) Exchange rate of €1.2558:£1 applied to Merlin Entertainments revenue for 2008

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Merlin acquired Italy's Gardaland, the country's largest theme park

significant footholds in the North American market. Parques Reunidos started in 2007 with several small park acquisitions, then stepped up the pace by acquiring Palace Entertainment and its 32 North American parks for £162m ($264m, €190m). Following this and two other US transactions, over half of Parques Reunidos' attractions are in North America.

A development to watch closely in 2009 is the future ownership of the Busch Entertainment assets. Busch Entertainment comprises of four Seaworlds, three waterparks and three hard ride parks in North America, with 22 million visitors in 2007. It's also involved in four new potential attractions in Dubai. Although speculation continues over the possibility of a sale, the transaction would offer both Merlin Entertainment and Parques Reunidos a major opportunity to significantly increase their North American presence.

GOLD IN THE DESERT?

In parallel to growing their North American presence, the Middle East was perceived as a fertile ground for expansion by operators as the region seeks to establish itself as one of the world's leading tourist destinations. Dubai has two major projects

FIG 2 **SUMMARY OF M&A TRANSACTIONS BY MAJOR OPERATORS SINCE 2005**

	Date	Target	Country	No of attractions	Value £m
Merlin Entertainments Group	May-08	London Aquarium	UK	1	n/d
	Mar-07	The Tussauds Group	Int'l	12	1,030
	Nov-06	Gardaland	Italy	1	n/d
	May-06	Aquatica	Italy	1	4
	Jul-05	Legoland	Europe & US	4	257
	May-05	Tertiary buyout by Blackstone	UK/Europe		102
Grévin et Cie	May-06	Star Parks	Europe	5	164
Aspro Ocio	Aug-08	Delta Park Neeltje Jans	Holland	1	n/d
	Apr-08	Blue Reef Leisure	UK	4	n/d
	Mar-08	Oakwood Leisure	UK	1	n/d
	Mar-07	Puuhamaa Oyj	Finland	1	25
	Mar-07	Western Water Park	Spain	1	24
Parques Reunidos	Apr-08	Sea Life Park	USA	1	n/d
	Dec-07	Kennywood	USA	4	n/d
	Dec-07	Aquarium de mar del Plata	Argentina	1	n/d
	Nov-07	Tusen Fryd	Norway	1	42
	Jul-07	Palace Entertainment	USA	32	162
	Jul-07	Bon Bon Land	Denmark	1	20
	Apr-07	Aquarium of the Lakes	UK	3	n/d
	Mar-07	Secondary buyout by Candover	Spain		606
	Mar-07	Grant Leisure Group	UK		10
	Feb-07	Aqualud	France	1	n/d
	Aug-06	Mirabilandia	Italy	1	n/d
	Aug-06	Marineland	France	1	51
	May-06	Bo Sommarland	Norway	1	5

Source: Company websites, Factiva, Corpfin, Mergermarket

under development – Dubailand and the Worlds of Discovery. Real estate partners are leading each development and are expected to provide the majority of the financial investment. The park operators are likely to be involved on a franchise or park management contract basis.

Tatweer is developing the 3bn sq ft (280m sq m) Dubailand, with anchor tenants such as Dreamworks Animation Park, Six Flags, Universal Studios, Marvel Superheroes and Legoland (Merlin Entertainments). In partnership with Busch Entertainment, Nakeel is creating Worlds of Discovery on The Palm Jebel Ali, which will include a SeaWorld, Aquatica, Busch Gardens and Discovery Cove.

Amid the global economic uncertainty, many projects in the Middle East have been placed on hold. Universal Studios at Dubailand is still underway, although it's expected to open later than scheduled.

The focus of the leading operators may become even more international in the future. Two regions of interest might be the Far East and Central Europe. Both have some of the highest rates of economic growth but are underdeveloped in terms of professionally-managed visitor attractions. These trends may encourage operators into park management, acquisitions or developments in these markets.

FIG 3 ATTENDANCES AT THE TOP 20 EUROPEAN AMUSEMENT/THEME PARKS IN 2008

Rank	Park	Location	2008 Attendance (m)	% change
1	Disneyland Park	France	12.69	5.7%
2	Europa Park	Germany	4.00	Flat
3	Tivoli Gardens	Denmark	3.97	-3.4%
4	Port Aventura	Spain	3.30	-10.8%
5	De Efteling	Netherlands	3.20	Flat
6	Gardaland	Italy	3.10	Flat
7	Liseberg	Sweden	3.05	Flat
8	Bakken	Denmark	2.70	Flat
9	Walt Disney Studios	France	2.61	4.5%
10	Alton Towers	UK	2.52	5.0%
11	Phantasialand	Germany	1.90	Flat
12	Legoland Windsor	UK	1.82	10.0%
13	Parc Asterix	France	1.80	11.1%
14	Thorpe Park	UK	1.70	Flat
15	Legoland Billund	Denmark	1.65	2.5%
16	Mirabilandia	Italy	1.60	-5.9%
17	Futuroscope	France	1.60	Flat
18	Parque de Attracciones	Spain	1.50	Flat
19	Duinrell/Attrakiepark	Netherlands	1.36	0.4%
20	Heide Park	Germany	1.33	-5.0%
Total			57.39	1.1%

Source: TEA/ERA

FUNDING

Many leisure sectors with freehold assets, particularly the hotel industry, have exploited a trend to divide asset ownership from operations with opco/propco splits and sale and leaseback transactions. This route is attractive, as the transaction releases capital for investment in other areas and enables the operators to focus on their core competencies of operating successful visitor attractions.

Merlin utilised this avenue with a £622m ($1bn, €730m) sale and leaseback of its UK sites at Madame Tussaud's London, Thorpe Park, Alton Towers and Warwick Castle to Prestbury in July 2007. However the current volatility in the real estate sector will curtail such transactions in the short term and the turmoil in the banking markets will make it virtually impossible to create equity value from financial engineering in the next two years.

Despite being busy with their merger and acquisition activity, the major operators have successfully continued to deliver organic growth through enhanced yield management of their attractions. The range of successful initiatives includes the promotion of advance ticket purchases, generating higher gate revenues and the mutual marketing of attractions. Operators have also generated incremental spend once visitors are inside the gates. In this area, the sale of priority queuing tickets for the most popular rides in a park has proved highly successful. More of the larger parks have introduced or increased the accommodation offering.

After food and beverage sales, the second largest in-park revenue generator is the sale of photographic souvenirs. Operators have successfully targeted these impulse purchases by customers where there is typically less price sensitivity. The initiatives implemented include higher levels of customer service, better technology solutions such as higher quality photographs and videos, greater reliability and more creative visitor products.

Attendances at the top 20 European attractions in 2008 were stable versus the 2007 season at 57 million visitors. This may reflect the diabolical weather, as average annual growth for these attractions

Merlin will operate a new Legoland attraction at the 3bn sq ft Dubailand

between 2005 and 2008 has been 2.5 per cent (source: TEA/ERA). However, 2008 was a strong year for many operators, which outperformed this average. Disneyland Resort Paris reported turnover growth of nine per cent and theme park attendances of 5.5 per cent in the year ended 30 September 2008, while Grévin et Cie reported revenue growth of 4.7 per cent with a 3.4 per cent visitor increase.

Meanwhile, in the US, Six Flags reported revenue growth of five per cent for the year to December 2008 driven by an increase of three per cent in visitors and two per cent in revenue per visitor. Attendances at the top 20 North American parks were level with the performance in 2007 (source: TEA/ERA). However, the company has filed for Chapter 11 bankruptcy protection as part of attempts to clear debts of $2.4bn (£1.47bn, €1.73 bn).

These attractive dynamics continued to support merger and acquisition activity during 2008 in both attraction operators and suppliers to the sector. Alongside the site acquisitions in Figure two (PX), Picsolve, one of the leading providers and operators of photographic solutions to visitor attractions, was acquired in July 2008 by Fidelity Equity Partners for £32m ($52m, €37.5m).

Parques Reunidos now owns 67 sites worldwide, including the Bournemouth Oceanarium (above)

CURRENT CLIMATE

A key question for visitor attractions will be the resilience of the sector to the challenges of the economic climate and lower levels of consumer confidence. The availability of debt finance has supported the rising valuations in visitor attraction assets over the last couple of years. The current state of the debt markets may constrain valuation multiples and hinder transaction activity in the short to medium term while vendors adjust price expectations to levels that purchasers are able to finance. For operators with pre-arranged financing facilities for bolt-on acquisitions, this backdrop and the fragmented sector may continue to deliver acquisition opportunities.

Visitor attractions may be pressurised by the tightening of consumers spending power. However, in the UK, 2008 has seen the growth of a 'staycation' trend, which appears to be accelerating. While attractions may suffer from fewer international visitors, they could get higher levels of domestic holidaymakers, more than compensating for any shortfall.

During the early 1990s, there was limited direct correlation between visitor levels and the overall economic climate at eight leading UK visitor attractions (see figure four – PX). Attendances rose in 1992 against a deteriorating economic backdrop but declined in 1995 and 1996 during a period of strong GDP growth. Although it's highly likely that the economy has a strong influence on the performance of visitor attractions, other factors such as the weather and pricing will also influence the out-turn for each season.

It's still early days to conclude on the effects of the economy. Many major European attractions experienced strong trading over Easter, with attendances ahead of last year. Euro Disney's results for the six months to March 2009 showed a two per cent fall in theme park revenues compared to the prior year. However, the results may reflect the staycation effect – Euro Disney had higher visitor levels but lower hotel occupancy and reduced spend per visitor.

The current climate is also creating challenges for operators' capital expenditure programmes. Most major attractions have ongoing reinvestment programmes and some may need to be revisited if the slowdown starts translating into significant restrictions on their financial resources. With investment in new rides often used to attract visitors, any delays in investment activity could create a knock-on effect on 2010 attendance levels.

While 2008 was a good year for many, it's uncertain how consumers will behave in 2009. A slow down in investment may occur, bringing a focus on generating cash from existing businesses. Beyond that, further consolidation can be expected, which may incorporate increasing geographic coverage and a return to the public markets for the leading private equity-backed operators.●

Great North Museum

Terry Farrell and Partners and Casson Mann have transformed an intimidating Victorian museum into a modern centerpiece for Newcastle's cultural quarter. Kath Hudson and Liz Terry speak to the two practices about their work on the £26m project

A life-size replica of a T-Rex is among the new exhibits

The Hancock Museum was cutting edge when it opened in 1884, but changes to the building, which featured galleries with row upon row of glass cabinets, had been piecemeal over the years. New funding has meant a fresh start – world-renowned architecture and urban design practice Terry Farrell and Partners (Farrells) has given the ageing, awkwardly-shaped Victorian building a £26m ($42.7m, €30.3m) transformation. Reopened on 23 May as the Great North Museum, the site is now the centrepiece of Newcastle's cultural quarter, where it sits alongside Newcastle University, the University of Northumbria and the Newcastle Civic Centre.

Farrells, drawing from experience transforming historic attractions such as London's Royal Institution and Edinburgh's Dean Gallery, has redesigned and extended the building over a six-year period, integrating the best features of the existing building with a contemporary extension, while exhibition designers Casson Mann have overseen the amalgamation of three Newcastle-based museum collections into the new facility.

The project has special significance for Farrells founder Sir Terry Farrell, who grew up in Newcastle and has watched the city develop. "Newcastle started by the dockside and was a very busy, lively port. However, when the railway was built, the quayside was by-passed and it just atrophied. The top area, the Haymarket, became vibrant until money was invested back into the quayside, and the emphasis shifted down there again.The Haymarket was slightly abandoned and the Hancock Museum became cut off. It was almost like a building that you could see, but couldn't get to. It started to go downhill, as did this part of the city by the ring road.

"Then the two city universities began to expand into what had been the Haymarket, built a new administration building, and extended the theatre. It has now become a cultural quarter, a civic quarter and a university quarter. The Great North Museum plays a very important flagship role in establishing that idea in people's minds."

The Hadrian's Wall Gallery

COLLECTIONS AND CONTENT

Not only did this project need to play a flagship role in the city, it also had to integrate the collections from the original Hancock Museum – this included a mix of natural history and Egyptology – the Shefton Museum, which had an emphasis on Greek Art and archaeology, and Newcastle University's Museum of Antiquity, which was housed at the university and contained artefacts from Hadrian's Wall. Newcastle University's Hatton Gallery is also part of

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LIVING PLANT - Visitors can find out about animals via a 'bio-wall', interspersed with some live animal tanks and aquaria. Star objects include a life-size model of an elephant and a great white shark.
HADRIAN'S WALL GALLERY - Interactive model of the wall, including archaeological finds and stories from people who lived at the time.
FOSSIL STORIES GALLERY - Explaining the Earth's past through its fossil record.
MOUSE HOUSE - Oversized furniture lend an Alice in Wonderland feel to this under-fives space, which echoes themes of the main galleries with fun exhibits.
EXPLORE! - Giving visitors more information on museum collectors.
NATURAL NORTHUMBRIA GALLERY - Provides a toolkit for identifying wildlife and offers a virtual visit to sites in the region.
ANCIENT EGYPT - Ancient Egyptian collections and objects on loan from the British Museum, explaining how the Nile shaped the lives of the Ancient Egyptians.
WORLD CULTURES - Objects from the museum's collection of world cultures, including objects from the original voyages of Captain Cook.
ANCIENT GREEKS - An important collection of Greek and Etruscan art and archeology, describing life as an Ancient Greek.
ROMAN EMPIRE GALLERY - Exploring objects from the wider Roman Empire including a Roman silver denari of Anthony and Cleopatra.

A bio-wall enables guests to learn more about animals

the new Great North Museum project, but remains in its existing building.

As the museum was used frequently for educational and scientific purposes, it was a challenge for Casson Mann to make it appeal to the mainstream without becoming gimmicky and alienating its existing audience of students, academics and scientists.

"It's an object-rich museum, loved by schools and used by students," says Casson Mann's Roger Mann. "We had a fairly tight budget and getting the mix of technology right was quite difficult, but I think we're delivering a lot of interpretation."

A few new exhibits have been added, including life-size models of an elephant and a T-Rex. Multimedia brings the subject matter to life in some exhibitions, including a bio-wall in the Living Planet gallery. Visitors can use touch screen technology and hands-on investigations to find out about hundreds of creatures and discover how those living in extreme locations survive. In the Fossil Stories Gallery, visitors can use virtual technology to re-assemble a pre-historic creature.

Making the galleries a pleasurable environment to spend time in and reducing the oppressive nature of the former building was also important. The display areas are built around a Northumbrian theme, which continues with the landscaped areas outside the museum. "A lot of the galleries are about nature. We used colours to open the rooms out, so you don't just feel like you're in a gallery," says Mann. "The design was also based on the idea of reducing museum fatigue, partly caused by going into spaces that you can't see out of and not being able to orientate yourself. We've tried to make visual links through to the outside and from gallery to gallery."

MODERN BUILDING

As with all modern buildings, accessibility was top of the list. New lifts have been installed and the design has simplified the way a disabled person would access the building. All colours used had to be signed off by the council, English Heritage (the building is Grade I listed) and the DDA.

Farrells design director Russ Hamilton, who led the work on the project, explains how the architectural changes were approached: "In 1884, the three main galleries were built. Two were added later, almost as buttresses to the main building, which had started to fall down, meaning circulation was always compromised.

"We looked at how the city relates to the building, drew a line right through the building, created a big new threshold on the axis of the building and opened it out. So now you move through it very much as

The new extension at the Great North Museum

you would move through the city. The back now terminates on a very strong university pedestrian route, so it's effectively giving the building another front door."

The original roof contained skylights, but these had been blocked out as sunlight is bad for museum exhibits. The glass in the pitched roofs was filled in so they could be insulated and made more of a controlled environment. A false ceiling ensures no natural light gets through, but sophisticated lighting creates a light and airy feel. All the architectural moves are reversible, just in case future generations might want to turn the building back to the way it was.

Another important aspect of the redevelopment was to improve the commercial capabilities of the museum. To this end, the extension has a vast temporary gallery, 5m (16ft) high, which has been built according to specifications from commercial touring companies. The space will be able to host some of the largest touring exhibitions, and three exhibitions have already been lined up. The extension also has a new education centre with a 60-seater classroom, offices, and a library containing the most important collections of works on natural history and archeology in North East England.

The new 60-seater café on the first floor runs all day and evening. Its location means it can be closed off from the rest of the museum for functions, and the public walkway at the back has a Costa Coffee.

The shop has been integrated into the reception area and a second retail concession in-between the old and the new building can be extended for merchandise to support an exhibition.

NEW LIFE IN NEWCASTLE

Sir Terry Farrell, known for his expertise in urban regeneration, has worked on masterplans for projects around the world. Adding the Great North Museum to Newcastle's cultural quarter isn't his first contribution to the Newcastle cityscape – the Farrell-designed International Centre for Life project, completed in 1999, transformed a previously-neglected quarter of the city with a science centre attraction, office and labratory space and a public square. But there's more work to be done in terms of regenerating Newcastle, which is why a project like the Great North Museum is so important. "This area is one of the poorest economic regions in the British Isles. Newcastle has a relatively small population of around 250,000, which causes concerns about how it will hold its own as a city. It has a low critical mass of population and it's regionally isolated," Farrell says. "Most cities are successful because they have other places nearby: Leeds, Liverpool and Manchester; Birmingham and Wolverhampton."

Farrell's next Newcastle project aims to solve this – he's working on a masterplan to bring Newcastle and Gateshead together into one city. In the meantime, his bold Great North Museum development is helping the cultural quarter to thrive. ●

THE FACTS

- The Great North Museum opened in May 2009.
- It incorporates collections from the Hancock Museum, Newcastle University's Museum of Antiquities, Shefton Museum and Hatton Gallery. 3,500 objects are on display from a collection of more than half a million.
- 10 new galleries and a temporary gallery for touring exhibitions have been created.
- The £26m ($42.7m, €30.3m) project was enabled by a £8.75m ($14.4m, €10.2m) grant from the Heritage Lottery Fund, as well as funding from the European Regional Development Fund, One North East, Newcastle University, Newcastle City Council, TyneWear Partnership, Northern Rock Foundation, Department for Culture, Media and Sport, Garfield Weston Foundation, Clore Duffield Foundation and the DCMS/Wolfson Foundation Museums & Galleries Improvement Fund.
- Entry is free and the museum expects to welcome 300,000 visitors a year.

 ©cybertrek 2009

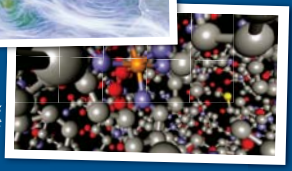
Planetariums: all grown up.

Songam Observatory Definiti theater, South Korea
Screen image: fulldome show Astronaut, produced by National Space Centre

Large-screen Definiti projection system, graphics by Sky-Skan and the National Space Centre, Challenger Learning Center, South Korea

Definiti GaiaSphere rear-projection dome installation, Kifissia, Greece

Sky Touch interactive weather simulation: for exhibits, Definiti GaiaSpheres, and Definiti fulldome theaters



Protein Data Bank real-time 3D data set

You'll be surprised at what we're doing with planetarium technology.

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- Real-time and scripted multimedia shows can be developed to take advantage of DigitalSky 2's advanced visualization system. Multimedia capabilities include 3D data, images, video, graphics, and sound.
- Definiti 3D theaters bring the best 3D stereo experience to fulldome. Audiences, wearing advanced lightweight 3D glasses, feel even more engaged in the visuals with the added depth perception of 3D stereo.
- Innovative theater designs open exciting new possibilities.
- Definiti GaiaSphere uses Definiti projection technology to show a bright and clear picture on a vertically oriented rear-projection dome. Typical installations use a touch panel so visitors can interact with the simulation.

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Challenger Center photo courtesy Challenger Center for Space Science Education and Songam Observatory, South Korea. © Sky-Skan, Inc.

SkySkan01

What goes into making a good planetarium show? Paul Mowbray and Max Crow from the creative team at the UK's National Space Centre discuss the production of the new *We Are Astronomers* show and the best practices involved in creating it

A STAR IS BORN

The *We Are Astronomers* show is the UK's contribution to the International year of Astronomy, which is celebrating 400 years since Galileo first used a telescope. The project is a collaboration between Armagh Planetarium, INTECH Science Centre & Planetarium, Centre For Life, National Space Centre, Our Dynamic Earth, Royal Observatory Greenwich and Spaceport with funding from the Science and Technology Facilities Council.

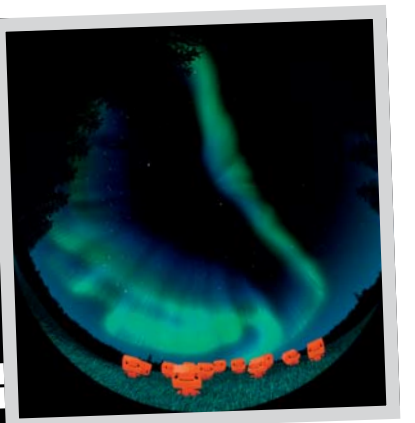
STARTING POINT

Our planetarium shows usually start with a set of objectives determined by the main funder or client. With *We Are Astronomers* (WAA), the main funding source was the Science & Technology Facilities Council. The brief was to create a show that promoted the UK's involvement in astronomy and inspired the difficult to reach 13- to 19-year-old age group. We had the added pressure of entertaining a general family audience also. It was about making astronomy exciting and sexy but still credible.

We looked at all the areas within astronomy people were excited about, what they were doing and how. A good research phase is imperative to form the foundation of the pre-production period. Different members of the team focus on various areas, and we bring together our findings so we can share the collective knowledge. We conduct typical web research, but we also talk to educators, teachers and active scientific researchers to get an understanding of the science and the existing challenges of communicating it.

Once we had a good feel for the current state of play, we looked at finding a single thread we could hang the show on. Good scientific subject matter is worth nothing to the target audience if a compelling narrative can't be found to sell the story. We were very conscious that it could become a telescope show, so we looked for a human angle. We didn't think a case study following a single person would have wide enough appeal, but a natural thread that emerged from our research was how modern day astronomers work together across the globe. So the main theme became massive international collaboration across disciplines. The secondary theme was to challenge the public's preconceptions of

"IT'S ABOUT MAKING ASTRONOMY EXCITING AND SEXY BUT STILL CREDIBLE"



Characters representing the public in *WAA* (above); an exploded view of the James Webb Space Telescope highlighting the MIRI instrument, which has heavy UK involvement (left)

 ©cybertrek 2009

Enjoying the show (main picture); exploring the electro magnetic spectrum in *WAA* (below left); working on the music in the dome (centre); the NSC team get lit up with laser light in the dome (right)

"THEY ASKED FOR A GENTLE BEGINNING BECAUSE OUR PREVIOUS SHOWS WERE QUITE DRAMATIC AND SCARED SMALL CHILDREN!"

astronomy. This gave us the "chapters", and we worked very hard to create a narrative that covered the history of astronomy, what the point of astronomy is, the challenges and what the future holds. We also wanted to show examples of how relevant astronomy is, and how it's connected to many areas of science.

As the show's main theme was about collaboration, we applied this philosophy to the whole production. From an early stage we engaged with the seven UK science centres that would be launching the show. We wanted to hear what they wanted, what worked for them and what didn't. They asked for a gentle beginning, because our previous shows were quite dramatic and abstract and sometimes scared small children! The public also feel a bit cheated if they don't see any planets or rockets when walking into a space show.

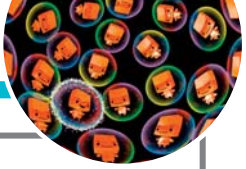
To ensure accuracy, we worked with a team of science and education advisors made up of professors and professional astronomers. These aren't just experts – these are people who publish and review their peers, so have a lot of experience in presenting difficult to understand information. During the script writing process, they assisted with both fact checking and the way the science was communicated. The core script writing team also included our in-house astronomer and science communicator Kevin Yates.

To keep everyone up to date we kept an online production wiki where we uploaded updates for the seven science centres, our science and education advisors and our funders so they could provide critique and feedback. This website was key in the communication process and had the storyboards, show title choices, narrator and other content discussions. As development progressed, we launched a blog to get public feedback and begin marketing.

SCRIPT

The script writing process was the most difficult we've ever faced. With so many issues to tackle and so many people to keep happy, we struggled on some sections for longer than usual. One section was about the scientific process and the massive amounts of data astronomy is generating. Then the section's topic changed to virtual observatories, and then to the electromagnetic spectrum.

On top of scriptwriting, we had to make sure the film was working visually and that the transition into other sections was smooth. It's very important to lead in and out of a change of subject. Right up to the day before we recorded the voiceover, we



were making sure every word was doing its job and there was no other way to get the message across. In documentary, and especially in an immersive show like WAA, it's important not to have too much voiceover – the audience needs to absorb the visuals. We record a temporary voice track for each script change to make sure we aren't conflicting an action sequence with an important piece of science education.

MUSIC AND NARRATION

We found an existing track by New Zealand composer Rhian Sheehan that we really liked and fitted our themes perfectly. Rhian was really interested in the project and created most of the music for the show. A local company, Leicester-based Chameleon Post-Production, completed all the sound design, special effects and the surround sound mixing to allow the film to work within a dome environment.

Getting the right narrator is one of our greatest challenges. We try to invest in the biggest name we can afford. The narrator has to be respected enough to bring gravitas to the subject, but be associated with it in some way. They also have to sound good and be experienced in producing voiceovers, which is a very different skill to acting for film or television. Most importantly, they have to be available!

Early on in the production we were on the streets of Nottingham recording opinions of the public about their perception of astronomers. We asked some kids whom they'd like to do the voice over. One girl suggested David Tennant and the rest of the group went mental. David was the perfect choice, not just because of Dr Who but because he had all our requirements in spades. Having him attached to the project raised WAA's profile steadily for months, even before it was released. That's how important the right choice of narrator is.

THE VISUAL PROCESS

We start the visual process as a concept board and story board. This gives us our main scenes, so even though we might not have a script we know most of what's going to be in the show. The only element that's definite is the duration – planetarium shows usually run for 25 minutes.

We experiment with fly-throughs and simple animation sequences called block tests. This gives us options on how the shots are working while making sure we maximise the immersiveness of the scene. We have plenty of experience in producing immersive experiences but still have to test our work in the dome daily. How things move and behave on the dome is very different to how it looks on our monitors.

These tests go into the main edit where we assemble the show as a whole. This then feeds back to the various departments, audio and visual to allow them to make changes or increase the level of detail. This way of working means that script, visuals and sound work concurrently, all feeding into each other. The benefit of this way is that the show grows organically. Changes can be made very quickly and then fed back into the whole.

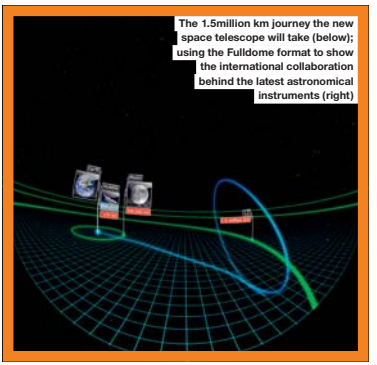
Unlike film, where the script is finalised before production begins, we're more like documentary, except we create all the content rather than edit a film out of an amount of footage. This makes the production more stressful – you need confidence it's all going to work and must trust the team's creative instincts. It's vital to have goals and boundaries set up from the beginning.

We Are Astronomers launched in the UK in May and we've had fantastic reviews from the other science centres and general public alike. The show was previewed at the British Association of Planetaria's annual general meeting and was described as the best fulldome film ever seen! The show premiered in the US at the Southeastern Planetarium Association's annual conference in Nashville in June.

About NSC Creative

NSC Creative, based at the UK's National Space Centre, Leicester, supplies CG animation and visual effects for all formats. The main focus is CG large format immersive experiences including fulldome and stereoscopic 3D motion platform rides. The team also has experience in tv broadcast, exhibition design and corporate events.

NSC Creative has more than nine years' experience producing digital fulldome planetarium shows. The team has won recognition for innovation, visualisation and sound composition in the area of fulldome and has a library of 10 films, which are licensed in over 140 different locations in over 17 different countries.



The 1.5million km journey the new space telescope will take (below); using the Fulldome format to show the international collaboration behind the latest astronomical instruments (right)

Team effort

Members of the NSC Creative team talk about their roles and their passion for fulldome productions

PHIL DAY
CG ARTIST

My role is creating the computer-generated content of the full-dome shows using 3D studio max. As I'm part of a small team, this role can vary dramatically to the extent that one day I can be working on modelling the Very Large Telescope (VLT), and the next creating a fly-through animation of our solar system. It's very satisfying to take a concept for a shot from sketches on paper to a finished sequence. There's been a lot of talk of 3D films and it'd be great to get an opportunity to explore that dimension – no pun intended – of immersive media in the future.

MAX CROW
CREATIVE SUPERVISOR

My role is creative supervisor, which is like the director. It's impossible to have a single artistic vision as so many people and agendas are involved. The final show is the product of millions of compromises and ideas. My main job is to keep all the departments focused on their individual tasks and make sure the big picture is constantly being addressed. I have to be involved in every aspect from the script to the final sound mix. It's a fine balance, being knowledgeable enough in every area to make decisions, but open enough to allow creative input.

PAUL MOWBRAY
HEAD OF PROJECTS

I oversee every aspect of the production process with a focus on workflow and efficiency. I ensure that final quality is at the required level. I love making Fulldome films! Regular film language rules no longer apply. Fulldome is a new art form which literally has no barriers. It's one of the last remaining audio-visual experiences that can't be re-created at home. Fulldome has the power of shock and awe, but when carefully combined with educational content can be a massively inspirational tool to stimulate the next generation and give us all a bigger picture of the universe we live in.

AARON BRADBURY
CG ARTIST

Working within a small team, it's inevitable that we all get to work on pretty much every aspect of the show production. It can be very hard to produce a piece of work that stands up to an audience's expectations when we compare the five of us to the many thousands involved in a typical box office production. We also have to deal with a number of added complexities involved with fulldome production due to the wide varieties of audience we cater for. The culmination of these things is what draws me to NSC Creative. We all love every part of the production process.

RUTH HARVEY
PROJECT CO-ORDINATOR

I assist in securing new projects and business opportunities for the NSC Creative team. Once the project is secure I'll project manage and be the direct link between client and the creative team. Monitoring budgets alongside negotiating and securing the talent for the music and the narration elements is another key element to this role.

I also ensure that *We Are Astronomers*, and our other nine fulldome productions, are licensed to as many operators in the fulldome market as possible, while marketing our creative services and looking for our next project. ●

TEDDY BOYS

Founded in 1895, shut down by Hitler in the 1930s and asked by the Norwegian government to salvage a failing attraction in 1996. The Lund family business has an extraordinary history, as Håkon Lund tells Kathleen Whyman

The Lunds (from left to right: Bjørn, Magnus, Aasmund, Veslemøy and Håkon) successfully relaunched Kongeparken with a teddy bear theme

"Are you crazy?' were my first words," admits Håkon Lund, recalling the moment his father told him he was buying the bankrupt amusement park Kongeparken. With the park having gone into liquidation three times in its 10 years, the government was determined to get an experienced operator behind the Norwegian park. And the Lund family business, Lunds Tivoli, definitely had that experience – the company has been in the industry for 100 years. "My brothers, Aasmund and Magnus, were also against the purchase," says Lund, who is now the park's CEO, "but it was flattering to be asked by the government to help, and the bank put together a good package."

When Lund's parents, Bjørn and Veslemøy, took over the park in Stavanger in 1996, there was nothing there but the basic infrastructure. Since then they've invested heavily, doubling the amount they've made for the year with their own funds and putting it back into the park. (Last year they invested €3m (£2.6m, US$4.2m)). They've added at least one new attraction every year, each sourced for its originality and family appeal. These include a Zeppelin-type airship ride made by Nomura Co Ltd in Japan which is the only one if its kind, a factory where children make their own chocolate, a family coaster built into the side of the hill, a Huss Tri-Star, a tower balloon ride and a Tilt-a-Whirl ride in the middle of a lake, accessed by a pier. Last year the park had its highest attendance to date with 250,000 visitors – up from 40,000 in the park's first year, and particularly impressive considering Norway's population is four million.

"Now, of course, we're really pleased my father bought the park," says Lund. "But there were some very tough years in the beginning when we were trying to change attitudes towards the park. Many people in the region had invested privately and lost their savings. So much had gone wrong that we had to put right, but at least we knew it couldn't get much worse."

The family realised that to generate visitors and create loyalty,

 ©cybertrek 2009

they needed more than rides – they needed an anchor "to give the park some soul". So they looked back to the fun fairs their grandfather had run in the early 1900s, which gave away teddy bears as prizes.

BEAR NECCESITIES

"Most Norwegians have at some point in their lives won a teddy bear from our mother company, Lunds Tivoli, so we decided to make the teddy bear our mascot," explains Lund. "To generate excitement about this we launched a teddy bear hospital concept. In 1996 we worked with the health minister and the two biggest university hospitals in Norway, and invited everyone to bring their teddy bear in for a health check. In the first hour we treated 2,000 teddy bears, which created a lot of media coverage."

(Top left) The park features a factory where children can make their own chocolate. (Above right) The park's airship ride is the only one of its kind

Kongeparken is 'run' by a teddy bear king, but how does this traditional toy compete with modern-day TV characters? "I don't think it really matters what type of characters a park has as long as they tie in with the theme and cement the values," says Lund. "Bob the Builder can't compete with our teddy bears within the park. Outside is a different story, but here visitors see where the bears live and find out how they secretly make the chocolate at night. The bears really are the soul of the park."

The teddy bear theme has proved successful, but these cute, fluffy toys mask a dramatic history for the Lund family.

In 1895, Lund's great grandfather, founded Lunds Tivoli (Tivoli is Norwegian for fun) and opened several parks including Den Kulørte in Oslo and Norway Indira Park In Berlin, Germany. When Hitler took power in Germany in 1933 he closed everything down, and Lund's Norwegian great grandfather fled to Liseberg, Sweden where he stayed until he died in 1952. Lund's grandfather, Hans, using the Lunds Tivoli name, became a travelling showman and set up a fun fair in Norway during the Second World War. Thanks to a special relationship with Kraft food, which owns Freia, a well known chocolate brand, his was one of the few companies that could access chocolate during the war. The combination of chocolate and teddy bears for prizes guaranteed the fair's success and he soon expanded the business with more travelling fairs.

FAMILY AFFAIR

Lund's parents, Bjørn and Veslemøy, took over the fairs when Hans died and modernised the business before adding to it with Kongeparken. When they bought the park, Håkon was finishing law school with no plans to join the company. "Then my father told me he was buying the park so I said 'Okay, I'll come and help you for a little bit'. And I've been here since!" Despite their father's insistence that they get an education and work elsewhere for a minimum of two years, all three sons have now joined the industry. Aasmund, who has a degree in mechanics, operates Lunds Tivoli's 100-year-old carnival, while Magnus, who has an event management degree, operates an event company owning some of the biggest festivals and fairs in Norway. Their father, Bjørn, is still head of the board for Lunds Tivoli and their mother is also involved. '"It's a real family entrepreneurship," says Lund proudly.

THERE ARE FEWER AND FEWER FAMILY OWNED COMPANIES OUT THERE, AND SO WE'RE VERY CONSCIOUS THAT OUR KIDS BECOME GOOD OWNERS, ALTHOUGH NOT NECESSARILY OPERATORS

Lund is adamant his children will work elsewhere rather than falling automatically into the company. "Being an owner doesn't necessarily give you the right to be an operator," he says. "However, if after working in another industry they still have a passion for attractions and we have a job opening, then they're welcome.

Lund and his two brothers are very aware of the difference between being family and being work partners, he says. "We've discussed how to structure a family company for long-term survival. In our business there are many big corporations, most of them private equity. There are fewer and fewer family-owned companies and we're very conscious that our kids become good owners, although not necessarily operators. We have succession planning talks to make sure we're creating good stewards to take care of the values and develop the company when we're dead. It's difficult but important to discuss values, the future and to resolve conflicts. Often corporations fail because they don't tackle the tough questions before they actually happen. We all know there's nothing tougher then discussing inheritance after the person is dead."

SHARING EXPERIENCE

The Lunds have breathed life into Kongparken (which means King Park) in the 13 years they've owned it. Covering 300,000 sq m (3,300,000sq ft), the park is built at the foot of a mountain, which provides a beautiful setting, but means the hard land has to be blasted into and support pillars put down before it can be developed. Despite an investment of €30m (£26m, US$42.5m) in 1986, there was nothing but the basic infrastructure when the Lunds took over. Fortunately, this basic infrastructure was good. "Infrastructure-wise, the park was very well invested, but the original owners lacked understanding of how you drive a theme park," says Lund.

Once Lund's father, Bjørn, had seen the site's potential, he enlisted Imaginvest's

EMMANUEL MONGON, IMAGINEVEST

The Lund family contacted me when they were considering taking over the failed park. They said: "We're leaders in Norway on travelling amusement, but have no experience on a fixed-location facility. Can you help us?" It was a great privilege to be involved from the start.

Imaginvest were the master planners. As well as the planning and design, we put together a re-engineering strategy, incorporated the strengths and values of the Lund family, carried out an economic study, did the marketing campaign, the visual identity and helped plan the ride mix.

The biggest challenge came from the fact that Kongeparken is located in a mini resident market, and initially received just 40,000 visitors in a market of 300,000 inhabitants. On the west side is the ocean and on the east side mountains and fjords. There is one road and Oslo is six hours drive away. Together with the Lund family we had to work out how to adapt to this very small market, turn around the negative image of the park and develop a sustainable business.

We decided to reduce the size of the park and not use all the available space. The Lunds said afterwards they were surprised with this move, but it was probably one of the main reasons they succeeded – they could focus their energy on the guests rather than on the space.

It's such a pleasure to see how the Lund family has implemented the strategy we developed together. They're a wonderful family with strong values who are totally devoted to entertaining their guests.

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Emmanuel Mongon to help with the master planning. "We did a feasibility study of the park," recalls Lund. "Our goal was to break even after five years, and we broke even after the first. Then, in 2003 and 2008, we were voted one of the best parks in Norway by the national media, even though we compete with parks two or three times bigger."

Lund attributes this success to the park's family-friendly offerings for children up to age 14. All the park's amusements incorporate six values – learning, play, sharing, exploration, magic and excitement. The signature attraction is the Willy Wonka-inspired chocolate factory sponsored by Kraft. "They were the first company to partner with us," says Lund. "That wouldn't have happened without the relationship my grandfather set up all those years ago." In the park, they have deliberately tried to keep visiting families together by positioning rides for all age groups alongside each other rather than in different areas. The value of sharing is reinforced by the Lund family through free sun screen, free drinks if a souvenir bottle or mug is bought, the loan of a digital camera with images emailed afterwards and free cod liver oil, which Lund assures is a "fun thing".

(Top left) Teddy bears have been part of the Lund family's attractions since the early 1900s. (Above and opposite) The park offers family coasters

CAPITAL OF CULTURE

The government hasn't approached the family about any other parks, but Lund isn't sure they'd be interested anyway. "We're committed to developing Stavanger into an area that people want to visit and live in. This region is the industry capital of Norway, where much of our national revenue is made, but it needs manpower – we struggle to fill all jobs, including mechanical and electrical work, teachers and nurses. Normally, as an attractions operator, we'd only be interested in the tourist side, but we view being a visitor and being interested in moving here as part of the bigger picture, so we're working with politicians and other organisations towards that."

Stavanger got a huge boost last year when it was made the cultural capital of Europe alongside Liverpool, UK. Rather than just thinking about how they'd benefit from this, the Lund family looked at ways they could contribute. "One of our values is learning and teaching, and getting young people involved was one of the Capital of Culture 2008's aims," says Lund. "We combined the two by inviting students at landscape architecture universities all over Europe to enter a contest called Growing up Green. We asked them to come up with a concept for the park involving children, movement and nature." The competition received 39 entries, which were judged by a university professor, a well-known Norwegian architect and members from Lunds Tivoli's junior board, who are aged between eight and 13. Four teams – hailing from Serbia, the Czech Republic, the UK and Norway – were chosen as finalists and flown to the park to build their projects in 30 days. One project was about insects, while the others explored seeing, hearing and feeling, the four forces of nature and CO_2 cleansing; all four were created in the park for guests to experience. "It was very exciting," says Lund. "It's completely different to a coaster or something like that, but it was a beneficial partnership for the park. These students challenged us to see the attraction value in things we wouldn't normally see."

With their personal commitment to giving back rather than just running a business, the Lund family have already provided visitors to their attractions with plenty to value. ●

FATAL ATTRACTION

If you thought it was safe to go out after dark, think again. A growing band of twisted individuals are hatching schemes to frighten the living daylights out of you. The scare industry is big business, as Vicky Kiernander discovers

Scare attractions now make up such a big sector of the industry that it boasts its own convention (and the only one in Europe) – ScareCON. Launched in 2008, the aim of the event was to gather together professionals working in the haunt industry to share ideas and best practice. Around 40 people attended the inaugural show, which ran alongside Leisure Industry Week (LIW) in Birmingham, UK. Such was the response that the second ScareCON, which took place in May, was four times the size of the original, prompting calls for an even bigger venue for the 2010 show. A smaller ScareCON will also take place at Attractions Expo at LIW this September providing general information about the industry and sample attractions.

Michael Bolton, Wayne Davis and Kevin Sudds founded ScareCON to promote the UK scare industry

HAUNTING PAST

ScareCON is the creation of three friends, who are not only self-confessed addicts to all things scary, but also the founders of Scare Attractions UK, an organisation set up to promote and support the growing UK haunt industry. The directors have experienced hundreds of haunted attractions throughout the world over the last 13 years and it was their frustration with the lack of information about this budding sector that caused them to form the company in 2003.

"We started purely as a fan listing site (www.hauntedattractions.co.uk), but soon realised there was no one dedicated place for people to find out information about Halloween and scary attractions," explains co-founder Michael Bolton.

As recognition of the Haunted Attractions brand grew, Bolton and his colleagues Wayne Davis and Kevin Sudds started reviewing attractions and building a growing audience of readers until the operators themselves were courting them to write reviews – "a good review from us was a great marketing opportunity". And with 80,000 hits to their website during Halloween last year, you can see why.

But it's more than that says Bolton. "We write almost all of the reviews ourselves and we're honest. In fact, we gave the London Bridge Experience a pretty scathing review when it opened, but they took our comments on board and have just been voted one of the best year-round scare attractions in the UK at the Screamies Awards," he says. These are the first awards for scare attractions in the UK.

According to Bolton, there were more than 70 different seasonal and year-round scare attractions in the UK in 2008. New ones are launching all the time, with three permanent attractions opening last year in London alone – London Bridge Experience, Fright Club and Pasaje del Terror.

"When the industry really started to take off in 2002 there were only a handful of scary attractions open during the Halloween season. Now farms and theme parks are getting in on the act and the attractions they offer are constantly changing and evolving," says Bolton.

MAKING A KILLING

And it needn't require much investment. Based on a simple installation, Bolton estimates that smaller operators can design, build, equip and run a modest scare attraction over a nine-day Halloween period for

 ©cybertrek 2009

Developing a successful scare attraction means training actors and creating an immersive environment for visitors

Tips on investing in a scare attraction

1. Talk to operators and visit attractions to get tips and hints about what to do. If you're unsure, talk to a production company for help with concepts.
2. Don't underestimate the effort and plan accordingly. It can be hard work, but involve the staff in the planning and they'll want to help you build it and see it become real.
3. Think outside the box. Be creative and have fun. The best effects are often the cheapest. You don't need a big cheque book.
4. Don't cut corners – the health and safety of your guests is paramount.
5. Visit ScareCON for the latest developments and ideas and to network with industry colleagues.

around £7,250 ($11,850, €8,500). Running at full capacity – one group of five people every four minutes for eight hours – would bring in £10,800 ($17,650, €12,700) for a ticket price of just £2.50 ($4, €3) per person, and obviously more if the charges are higher. Larger attractions, with more members of staff over a greater floor area, can increase the through-put of guests from 150 per hour to almost 1,500.

"If an operator can build something effective but cheap, and still charge a reasonable entrance fee, then they should certainly consider investing in a scare attraction. You also need to consider all the other residual income such as concession stands and souvenir stalls that can be added to the mix to make the event worthwhile," advises Bolton.

One attraction which has benefited from introducing scare experiences is Tulleys Farm in West Sussex. It invited the public to ride on its Haunted Hayride, wander through its Field of Screams and explore its Creepy Cottage during its annual Shocktober Fest last Halloween. And 40,000 people took them up on the offer over a two-week period, each paying approximately £14 ($23, €16.50) a head. The event has been so successful that two new attractions will open this Halloween to complement the existing ones.

"Scare attractions can be profitable any time of the year, but Halloween is superbly timed over the school half-term holiday in October. It's the last holiday before Christmas, the kids are bored and people just want to get out and have fun. It's also a quiet time for most operators," says Bolton.

SKELETON STAFF

But developing a successful scare attraction isn't as simple as paying someone to jump out at people and shout boo! There's much to consider, from training actors in the school of scaring to creating an immersive environment for visitors. Scare Attractions worked with Over Farm Market in Gloucestershire on its Frightmare experience last Halloween to test the nerves of even the bravest of locals.

"The idea is to create a story that starts to build the moment the visitors arrive," explains Bolton. In this case, the team developed the concept of the St Mass Acre Monastery, home to a community of blood thirsty monks. Queuing visitors listened to news bulletins on the local radio warning them to steer clear of any monks they saw and missing person posters were pasted to the walls to build the story. The 'monastery' itself was an existing farm building that was successfully integrated into the story through the use of special effect lighting, sound effects and costuming. Once inside the monastery, guests were tormented by the monks, chased through dark passages, experienced the bodies of previous guests and had to claw their way through strobe-filled cloisters where sinister creatures lurked waiting to pounce at any opportunity. The event sold out for every night

of its seven-night run with the Halloween weekend dates sold out weeks in advance.

With results like these, it's hardly any wonder that ScareCON is proving so popular. This year's event drew operators of attractions from around the UK – from big names such as Alton Towers, Thorpe Park and the Merlin group to smaller scale, family-run attractions. The event also attracted some less likely delegates from the likes of Butlins, Charterhouse Club, a premium health and fitness club in Surrey, and Scotland's Secret Nuclear Bunker, to name but a few.

"They can see the potential of introducing a scare attraction; they just don't know how to do it. ScareCON allows us to bring together the diverse attractions in the UK, to make new contacts, share ideas and learn from one another. This is such a growth industry that everyone needs to work together," says Bolton.

THE SCREAMIES

To raise the profile of this flourishing sector even further, Scare Attractions launched the Screamies, the first awards ceremony recognising the best attractions in the UK and voted for by the general public. Tulleys Farm, Alton Towers, Thurleigh Farm and Thorpe Park were among this year's winners and some, like London Bridge Experience, proudly display news of their success on their website.

One of the most exciting initiatives to come out of this meeting of minds at ScareCON is BASHA (British Association of Scare and Haunted Attractions). The idea for the organisation was mooted at ScareCON 2008 and a small committee of attraction owners, designers and suppliers subsequently donated time, effort and money to create the association to meet the needs of this growing sector. BASHA officially launched at this year's event as a non-profit organisation for all areas of the industry including attraction owners, scare actors and suppliers of props and scenery.

Farms are among the venues that can benefit from adding a scare attraction, particularly during the Halloween season

Bolton explains: "As more and more attractions open up each year, we felt the need for a dedicated UK association that can really focus on the issues that matter to us in this country. We know from experience that legislation and health and safety practices differ around the world and only BASHA will be able to give the UK industry the support and guidance it needs."

The association committee will work closely with existing attractions during its first year to review statutory guidance and establish guidelines for members in the areas of health and safety regulations specific to scare attractions, actor training and guidance and insurance. Among the proposed benefits for members are reduced costs of attending or exhibiting at ScareCON, member rates for networking events and a free monthly newsletter.

There's no doubt that the scare industry is getting serious and we can expect even more from Bolton and his colleagues in the future to ensure the sector continues to thrive. "We just love being scared! Every since our first attraction in 1997, we have actively sought out this unique form of entertainment and by supporting the industry, we can ensure we always have something fun to do at Halloween." ●

ABOUT ATTRACTIONS EXPO

A smaller ScareCON will run at Attractions Expo at Leisure Industry Week in September. Held at the NEC, Birmingham, UK, Attractions Expo at LIW attracts thousands of operators from the UK attractions and family day out sector.

For more information contact Chris Brown on 020 7955 3968, or email chris.brown@ubm.com

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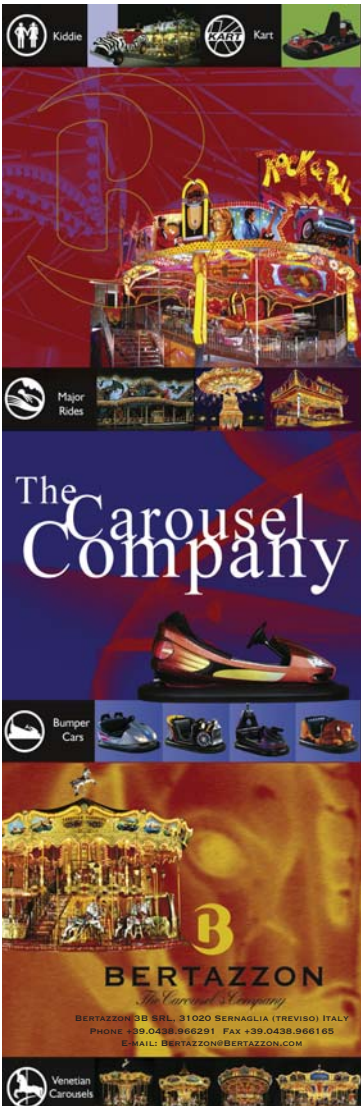

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SHOW & TELL

Converting an Arabic market into a museum, interpreting the mystery of life, and chronicling 60 years of British music were the challenges faced for three exhibition designers. In the first of a two part series, we look at how these attractions were created

The museum's design was Inspired by the objects

haley sharpe design

Keith Gray director

What was the brief in terms of exhibition design on the project?
We've been fortunate to have enjoyed a 15-year relationship with Sharjah. His Highness The Ruler of Sharjah asked us to review a covered souk in the city centre with the aim of converting it into a significant addition to Sharjah's cultural offer.

Due to the size of the building, the plan was for a phased development of the space, although we had to review and solve visitor flow, environmental and security matters for the entire building at the outset.

The aim for the galleries was to re-interpret and display an existing collection (housed in a number of locations in Sharjah) and to accommodate newly acquired objects.

What was the inspiration behind your exhibition design?
The exhibition design needed simplicity and attention to detail, so the focus remains on the beauty of Islamic decorative arts. The building is incredibly strong, formal and symmetrical with beautiful Islamic detailing, so our exhibit design had to 'disappear' as much as possible. We didn't want an over-designed exhibit concept to get in the way of the environment.

The interpretative development was aimed at a local family audience, but also provides for Sharjah's growing tourist market.

The project: Museum of Islamic Art and Civilization, Sharjah, UAE

Haley Sharpe Design (HSD) completed gallery and exhibition design on this 8,000sq m (86,000sq ft), three-storey museum, which has been converted from a souk [an Arabic market]. It includes galleries displaying Islamic art and culture, faith-based artefacts, working models and interactive manuscripts to tell the story of Islamic science and innovation plus a temporary gallery. HSD were commended for their work on the project in the international category at the 2009 Museums and Heritage Show awards in London.

Opened: June 2008

Describe the exhibition design
The Decorative Arts galleries are object-driven with a beautifully produced AV. Cased objects are supported by interpretative and decorative graphics.

The Islamic Sciences gallery features both replicated objects and interactive models to support the storylines.

HSD's scope was to manage the research and subject matter, provide a full interpretative and exhibit design, and then to manage the procurement, installation and commissioning of the entire scheme.

As part of this process, we also prepared functional requirements for non-exhibit areas of the museum to assist the local architectural team and designed the retail and catering offers.

What was the biggest challenge you faced while working on the project?
The building posed many challenges – it was, after all, designed as a ground floor covered shopping facility with very low mezzanine storage areas. That, coupled with the sheer size of the building, required careful planning of visitor flow and navigation.

What's your favourite part of the exhibition design?
Our greatest satisfaction comes from how well our use of the existing building spaces and understated exhibit design combine.

We created a museum from an under-used Arabic souk building. This beautiful site now takes pride of place as a key part of Sharjah's heritage masterplan.

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The British Music Experience encourages visitors to discover information for themselves

land design studio

Peter Higgins

creative director

The project: The British Music Experience, London, UK

Land Design Studio designed this £9.5m ($15.5m, €11.2m) permanent exhibition at London's O2 Arena for client AEG. The brainchild of promoter Harvey Goldsmith, now chair of the independent board of trustees managing the attraction, the experience chronicles 60 years of British music. Highlights include a Core with interactives exploring different facts of British music history, and an interactive studio where visitors can play instruments, DJ and sing.

Opened: March 2009

How did you work with the client on the project?

The content development team included Rob Dickins, Mark Ellen, Dave Roberts and Bob Santelli – all formidable music experts drawn from the industry and music journalism. We could have sold tickets for the robust debates that took place in the collaborative process of creating this complex visitor experience!

All content came from the four content developers, and the curation and media research came from a team set up for the project by AEG. This was led by Paul Lilley, who used to look after the EMI collection.

What was the inspiration for your design?

We wanted to encourage self discovery rather than lay out a prescriptive didactic journey. We created a clean central circular space with perimeter pods that represent defined periods of history.

The flank wall of all these 'edge zones' presents a dynamic digital timeline setting out an informative year-by-year interactive narrative matrix. There are two other generic components: the Table Talk feature, which draws from 60 videoed interviews and sets up round table conversations enhanced with contextual images projected onto the surface of the table; and interactive glass cases that enable visitors to unlock some of the in-depth stories that are embedded in the collections.

We created pulsed shows that orientate visitors at the entrance and provide a spectacular 'on stage' experience as the finale. We felt these shows would help calm visitors at the starting point and leave them wanting more at the finish.

What interactives are used?

The use of digital interactivity is extensive. Installations allow visitors to investigate the geography of the music and interrogate aspects of music transmission and playback through object collections. There's even a physical dance interactive which teaches willing participants to dance. Analogue interactivity is available in the Gibson Interactive Studio providing musical tuition serving as the starting point of a structured schools educational initiative. There's also a Smarticketing system enabling visitors to track their experience when they return home, via the BME website.

Which part of the project are you most proud of?

We managed to turn a very difficult space into a coherent series of spaces and events. There's a partial double height space that connects the introductory show with the final show. This can convert into a large performance/events space just by sliding an acoustic wall. This enables the client to convert the experience into a corporate events space with the exhibition as a pre-show or create a 300-cover studio/show space, which is a good revenue opportunity.

Visitors learn about the mystery of life through videos, games and experiments

hüttinger

Christoph Rochna

programme manager

How did you work with the client on the project?

The main challenge in planning an exhibition with such complex content was to develop a way of communicating scientific concepts, which are barely perceptible to adults, to 14-year-old students. The project's success is owed to a well-selected team on the client's side that showed an immense passion and profound understanding of children's needs and expectations, which eventually infected our designers. The blend of such passion with the creativity and know-how contributed by Hüttinger resulted in two years of enthusiastic planning.

What was the inspiration behind your design?

The inspiration for the layout and the structure surrounding the exhibits originated from the spatial impression that we commonly have of a molecule: a cluster of interconnected spheres. This idea developed into a more open space that could be described as the fusion of bubbles, where each bubble is home to one particular topic. We tried to use lighting and large wall and floor graphics to evoke the feeling of being in outer space.

The project: The Search for Life, Science Center NEMO, Amsterdam, Netherlands

Hüttinger developed the concept for this immersive, interactive exhibition in cooperation with NEMO, and designed and built the exhibits. These include videos, games and experiments themed around the mystery of life. Highlights include an interactive Build your own Alien station and a bike allowing visitors to pedal through space while listening to radio broadcasts which have travelled the same distance since they aired.

Opened: April 2009

How did you make the design both fun and educational?

We try to follow one rule for building good exhibitions: use real things and real processes. Children can both have fun and derive valuable experiences when they're being taken seriously and not fobbed off with some push-button interactions.

What was the biggest challenge you faced while working on the project?

Besides the complexity of the subject matter and its interpretation, it proved difficult to manage the design process alongside the financial planning. Passion doesn't mix well with reason, hence we had to work really hard to reach a design that would please both the client and ourselves and still remain within the budget.

What's your favourite part of the design?

One part is the 'bubbles' – different sized circles which are randomly distributed across surfaces. This design element appears in the initial floor plan and continues to appear throughout the exhibition. I believe it works well as an icon that indicates the contents of the exhibition – molecules, planets and space.

The 'Build your own Alien' exhibit, for example, features a cylindrical core studded with what we ended up calling Emmenthaler Holes. These are peepholes of various sizes, which look like bubbles, distributed around the exhibit and spiked with little facts and figures concerning life, the universe and everything else. ●

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HÜTTINGER

Exhibition Engineering

© Nemo Science Museum

ZOEKEN NAAR LEVEN

Design and fabrication of the interactive exhibition „The search for life“ - „zoeken naar leven“ at Nemo Science Center in Amsterdam.

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Mittelbügweg 90
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Germany
Tel: +49 / 911 / 99 5 33 - 0
Fax: + 49/ 911 / 99 5 33 - 99
info@huettinger.de
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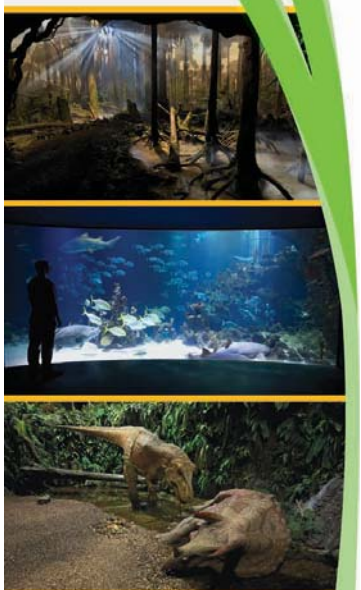

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PLASA09

The audio-visual industry is gearing up for its UK showcase at Earls Court in the shape of PLASA09 (13-16 September). Show director Nicola Rowland gives us an insight into this year's exhibition hosted by the Professional Lighting and Sound Association

More than 300 manufacturers and suppliers of professional audio, lighting, AV, stage engineering and systems integration come to the PLASA show to meet new customers from 100 countries. PLASA08 attracted 4,000 international visitors and 10,000 visitors from the UK.

Despite the toughest trading conditions for a generation, organisers PLASA Events say that pre-registrations are equal to last year's. With 80 per cent of stand space booked, it appears that cautious optimism prevails. This is, however, an industry driven by innovation, with buyers at the show constantly looking for a visual or sonic 'edge', so it should perhaps come as little surprise that exhibitors continue to be eager to show off their latest ideas.

If there are themes to be discerned at this early stage – most exhibitors do not release product details until shortly before the show – it's in areas that are likely to be good news for visitor attraction designers.

THEMES

The trend to compactness, a by-product of digitisation of many products, looks set to continue. The growing integration of control, lighting, video and sound data into unified systems can reduce the need for complex and bulky cable runs to remote locations. Digital signals can be carried on standard Ethernet cable, while a duplicate of this cable may be run to provide redundancy should one fail. Manufacturers and distributors will be offering advice about integration of audio, video and lighting products with a common control system and custom-designed touch screens to allow non-technical staff to select pre-set 'modes' for different types of operation.

Parallel to this is the trend to 'greening' the entertainment technology galaxy. Last year's PLASA show hosted the launch by the Mayor of London's Office of the Green Theatre: Taking Action on Climate Change initiative, and the PLASA Awards for Innovation reintroduced a special Environmental Award. In the rock world, moves by the Radiohead World Tour and many major festivals to improve their energy efficiency is encouraging manufacturers to create more efficient systems. Developments in LED lighting are producing fixtures with lamp lives in the tens of thousands of hours and greatly reduced energy consumption.

Similarly, video projector manufacturers are taking advantage of more compact and powerful light sources, including LED, to create less bulky equipment that expands the variety of locations in which they can be successfully used. Software in some models allows correction for projection onto surfaces at oblique angles.

LED-based video displays are appearing in more flexible and modular forms which allow a giant display to be wrapped around a room or an object. Some are constructed in 'mesh' form that can be hung like a curtain to create a large scale, low resolution display.

LISTEN UP

In the audio world, digital developments continue to grab the headlines. The miniaturisation and maturity of digital signal processing (DSP) means many audio systems manufacturers provide a choice of loudspeakers with built-in or external amplification plus integral control and fault-reporting systems. The latter is an important development as, increasingly, systems are being designed which duplicate the entertainment, information and voice evacuation functions while complying with the relevant health and safety and fire regulations. This avoids the need for duplicate crowd information and evacuation systems.

In the rock world, moves by many major music festivals to improve their energy efficiency is encouraging manufacturers to create more efficient systems

Loudspeakers specifically designed to tackle difficult acoustical environments are now available. Large public spaces, such as galleries, foyers and exhibition centres, typically clad in large expanses of acoustically reflective surfaces of glass, concrete, marble and the like, can be highly challenging to the sound system designer, particularly when the facility operator is keen to see the space visually uncluttered. A new generation of very compact loudspeakers with the ability to digitally 'steer' their beam away from ceilings and walls and direct it into specific audience areas is available. While there's inevitably a cost premium per unit compared to conventional equipment, in environments where speech announcement intelligibility is important it's an option worth considering.

If your main reason for visiting PLASA09 is to learn more about these technologies, visit www.plasashow.com for the PLASA Education & Learning programme. Entrance to most sessions is free to registered show visitors (and pre-registration online comes with a 50 per cent ticket price discount). The programme follows last year's format of two seminar theatres, one for exhibitor-led sessions, the other for industry-wide special interest sessions.

"We've developed the content of the Education & Learning Programme by responding to the industry's expectations and requests," said PLASA Events' Sophie Atkinson. "There's a hunger for seminars that really help people expand their horizons. We'll have a mixture of broad-brush issues, such as the convergence of lighting and video, along with tightly focused applications seminars – a genuine learning opportunity in core industry subjects." ●

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CLIMBING HIGH

Operators looking to generate additional revenue may find that adding a climbing attraction is the answer. We find out what the benefits are of installing one

Young adventurers enjoy Entre-prises' cave-effect rock climbing

Innovative Leisure, UK

PHIL PICKERSGILL, MANAGING DIRECTOR

Non-traditional games and activities arei-increasingly popping up in attractions. These bring in extra money for the operator as well as offering something different and perhaps adding a competitive challenge for virtually all ages and capabilities. Climbing attractions are a prime example of such products.

We began supplying climbing attractions to big theme park operators including Legoland, Thorpe Park and Chessington eight years ago. They've performed consistently well because they have lasting appeal for the typical family market. They're viewed as good exercise by parents and an exciting challenge by children.

It's important to install climbing attractions in busy areas. This has been tested over the years and just 5m (16.5ft) away from the main flow can impact revenue. Other technical considerations include access for cranes, safety areas when operating and correct foundation design which is site-specific. Climbing walls work well at attractions with strong family attendances. It makes sense to cluster them to help with staffing at quieter times.

Growing in popularity are modular climbing panels. These are put together to create virtually any size climbing wall and are affixed to a steel frame against a wall.

The Highland Outpost Skytrail showcases one of Innovative Leisure's latest products

Most theme parks charge £3 (US$8, €6) for five minutes on a climbing attraction. Some include a gift or memento in this price and some run a deal if you do other games as a package. Capacity per hour is about 50 people, with two staff. Revenue per day can be between £200 ($332, €235) and £1,000 ($1,660, €11800) depending on visitor numbers.

Cost, including full install with concrete base, fencing and mats, is in the region of £45,000 ($74,500, €53,000). Payback should be in two years although we have customers who've done it in three months!

Among the latest products to be launched by Innovative Leisure is a range of high ropes attractions which allow people to climb along various challenges or elements while being hooked into a safety track. The key benefit of the Skytrail system is the ability for climbers to overtake at the platforms between elements. This allows strong hourly capacity compared to traditional high ropes courses.

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Entre-Prises UK Ltd

COLIN BOOTHROYD, MANAGING DIRECTOR

Climbing is something that has an appeal to young people of all shapes and ages. It's a physically challenging activity and so some people are going to be more proficient than others. The key to ensuring that the activity appeals to as wide a group as possible is to make it widely accessible. To ensure this is the case, attention to the facility design and operational consideration is paramount. Revenue correlates to user numbers.

Operators considering installing a climbing attraction need to think about asset cost, operating cost, structural requirements, a dedicated area for the facility and its operation and training staff. For this kind of commercial environment, it's recommended that climbers are secured with an automatic belaying system, as this reduces the number of rope controlling instructors.

The primary appeal continues to be down to up (as opposed to low level bouldering) rope protected climbing, rock-effect appearance and additional challenges such as cave sections, timers and buzzers and ropes courses.

At Entre-Prises we've recently broadened the range of rock-effect climbing surfaces. We're proud to have developed caving systems, which are totally focused on offering an adventurous experience for youngsters.

Down to up, rope protected climbing is still among the most popular climbing activities

With the Freedom Climber, users are never more than 1m off the ground

Revolutionary Products

ANDREW BAGNALL, DIRECTOR

Trends in most sectors of children's entertainment and education are going towards more adventure-based activities, which provide a functional and challenging environment to stimulate children's thinking and aspirations. The thinking behind our company is making exercise fun and challenging. This philosophy has now been taken up by the government with their latest children's exercise initiative.

Local government leaders have announced plans to introduce zip wires, tree houses and large climbing structures in playgrounds across the country in order to put adventure back into children's playtime.

Research from the Local Government Association (LGA) in the Uk has revealed that councils are including an increasing amount of adventure equipment as part of schemes to build or refurbish more than 3,500 playgrounds by 2011, which has been funded by a £235m ($414m, €296.5m) funding package outlined in the UK government's Children's Plan.

Our Freedom Climber is a wall-mounted climbing disc that enables a real climbing experience without the need for ropes and high levels of supervision. It can be installed on any 8ft (2.5m) by 8ft (2.5m) wall and is non-motorised, using a patented hydraulic rotation system. The climber is never more than 1m (3ft) off the ground, but still manages to achieve a real climbing experience.

Consequently, this product fits nicely with the LGA's aims and will hopefully set a new trend as it combats the two conflicting issues attractions have. Firstly, to create an exciting climbing experience which challenges and extends children's abilities. Secondly, doing it in a safe and non-supervised environment within the bounds of health and safety guidelines.

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CLIMBING

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GARNET MOORE, MARKETING DIRECTOR

The Treadwall has the advantage of being easily moved

If an operator decides to attract additional revenue with, for example, a climbing wall, safety is of course the utmost concern. Luckily, almost every climbing wall will be fitted with auto belay devices. This will eliminate the need for in-depth staff training into the specifics of climbing hardware, as most people can be trained in a couple of hours. Costs vary widely depending on location and wall size. Most inexpensive walls will be connected to trailers and be unfinished on one side. It's much better for a permanent installation to look complete. It also allows for higher throughput.

One of the least expensive options is our Treadwall, which are $9,950 (£6,000, €7,000). These require no special construction and can be moved. The next step up in cost would be a freestanding climbing tower which run from $30,000-$60,000 (£18,000-£36,000, €21,500-€43,000) depending on size. These are pre-made panel systems which bolt together on location, but require a permanent concrete base or a trailer. The last step would be a custom-made fixed climbing wall that's permanently mounted to, or in, some sort of existing structure. These can cost from $75,000-$200,000 (£46,000-£122,000, €54,000-€143,000) plus, depending on size and complexity. These look the best, but require the most construction.

Don't sacrifice aesthetics for cost. If the look and placement of the wall doesn't look perfect to you, then it won't look right to your visitors either.

The possibilities for profit are immense. Most facilities use their wall as a ticketed attraction charging anywhere from $5 (£3, €3.50) to $15 (£9, €11) and throughput is usually between 50 to 75 people per hour.

Dropzone UK Ltd

MIKE TURNER, HEAD OF BUSINESS DEVELOPMENT

Dropzone is working on the world's highest and fastest climbing experience of its kind

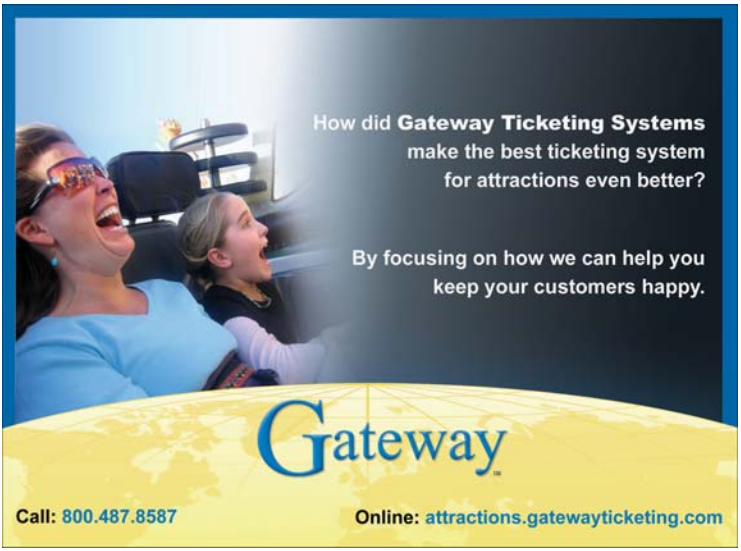
Operators no longer have to buy off-the-shelf activities and try to make the best of them. Instead, bespoke activities can be designed to integrate and compliment attractions and facilitate the guests' needs.

These range from small pay-and-play installations, used to increase spend-per-head, through to large scale attractions, which can act as a gate draw.

The biggest consideration needs to be the end user: How much do they want to spend? How long do they want it to last? How difficult do they want it to be? Installation budgets can be anything from £10,000 ($16,000, €12,000) up to several hundred thousand pounds. Return on investment is generally very fast and so, if properly designed, the risk is low.

Safety is imperative. The industry is still relatively new and has recently formed its own governing body (European Ropes Course Association) which offers guidelines, training and the opportunity to work directly with the health and safety executive. There are also specialist operating companies which will work in partnership with an attraction or as operating tenants.

We recently developed the Powerfan®, a freefall experience which can be fitted to existing climbing attractions or operated as a stand-alone pay and play attraction. The equipment uses a highly engineered braking fan mechanism to allow participants from five-years-old to experience the thrill of a freefall jump with a safe, gentle landing. We've installed Powerfans® from 10m (33ft) to 30m (98ft) high. We're currently testing a 120m (394m) version, which we hope to launch at Spinnaker Tower, Portsmouth, UK later this year. ●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SIGHTS, SOUNDS & STORIES

In the first of a two part series, we speak to the teams which create audioguides and get a behind the scenes look at recent projects

Alyson Webb
creative director
Antenna Audio

Which attractions have you created guide content for in the past?
We work with an enormous range of clients, with more than 450 sites worldwide, including the Tower of London, Edinburgh Castle and other significant palaces in the UK, the Vatican, the Louvre, and Alcatraz, Graceland and the Statue of Liberty in the US. Last year we opened a tour at the UNESCO World Heritage site of Qal'at al Bahrain and a multimedia tour at the Museum of Islamic Art in Qatar.

The Pentimento application for iPhone and iPod Touch can showcase a gallery's collection

How do you work with your clients and team to come up with guide content?
Our expertise is in developing and shaping visitor experience, while our clients have a detailed knowledge of their site and visitors and may also have undertaken work to develop a clear visual branding. Both are needed to develop a powerful visitor experience. After briefing and research, we typically create one or more 'treatments' which outline different approaches to the content. These include an overall narrative, creating atmosphere and character, deepening interaction or managing visitor flow, building repeat visits or increasing on-site spend. It's only once we've agreement on the way forward that we begin work on scripting and production with regular opportunities for client review and sign off along the way.

What kinds of research do you do to create content?
We're very fortunate to be part of Discovery Communications and have access to their research team. Over the last few years, with their support, we've carried out research projects at sites throughout Europe and the US that have allowed us to build a detailed picture of current trends in visitor preferences and expectations for mobile interpretation. We've been able to break down the findings to reveal differences between types of attraction, visitor nationality and so forth.

This research is supplemented by testing carried out during content development. This twin track approach – identifying high level trends and testing specific content approaches – has enabled us to develop innovative programmes such as 'Teach Your Grown Ups About Art' for the National Gallery, London, where children take charge of the learning experience and lead the fun.

What do you look for in a narrator?
There's no simple answer to this – each experience is as individual as a conversation. At Alcatraz, the tour is narrated by a former prison guard – his accent is strong, his delivery is anything but smooth, but there's an authenticity that makes the experience powerful and moving. No professional narrator could match him. In fact, experience tells us that visitors will often appreciate expertise more than slick delivery. Historians such as David Starkey, curators, conservators, artists like David Hockney – all are loved and respected for their unique insights. But equally, we've been fortunate to work with some of the greatest acting and voiceover talent around including Stephen Fry, Jeremy Irons, James McAvoy and Meryl Streep.

The key in choosing a narrator is to think about the experience in completely personal terms – who would the visitor like to accompany them? Who will they trust and believe in?

Do you use any special storytelling techniques?
While we employ all the traditional techniques of storytelling, we have, in addition, to consider the visual and physical aspects at the same time – helping visitors to spot the telling detail or understand the importance of the visual evidence, guiding them through a site, anticipating their questions, pacing their visit so they don't tire, smoothing their path through any logistical obstacles. What looks great on paper or sounds fantastic in the studio may not be what's needed on site.

Antenna Audio has created audioguides for more than 450 sites worldwide including the Louvre in Paris, France

What's the biggest trend in guide content?

More clients understand that an audio or multimedia guide is not simply a mobile catalogue or guide book. There's a growing appreciation that visitors are looking for meaning in what they learn and an emotional connection to the site. So we increasingly use documentary or dramatic techniques – interviews with experts, eyewitnesses and other specialists as well as archival material, dramatic reconstructions and so forth. Music and effects are also being used more subtly to create atmosphere. and there's been a shift away from the clipped, old school BBC-type narration towards regional and younger accents.

What's the most exciting guide project you've completed recently?

We recently launched our first application for the iPhone and iPod Touch devices, called Pentimento. The first edition, titled Love Art, features the collection of the National Gallery in London. Making use of iPhone features such as its large touchscreen, zoom capability, 'Rolodex' and scrollable menus, Love Art offers a playful exploration of the collection, together with informative commentaries. Over 250 paintings are showcased in high resolution, along with around 200 minutes of audio and video content, including interviews with National Gallery director Dr Nicholas Penny, dramatist Robin Brooks, artist Maggi Hambling and *Girl with a Pearl Earring* author Tracy Chevalier.

What's the most challenging guide project you've completed recently?

We created an extensive multimedia guide for the museum of Islamic Art in Qatar that includes more than 15 hours of content in Arabic and English for adult and family audiences, together with a tour for visually impaired visitors and a podcast series.

With less than four months to deliver multilingual content, including video and interactive games, on what's universally recognised as a highly-sensitive topic, the project represented an extraordinary challenge. With a team of more than 20 specialists including producer, writers, editors, multimedia designers and developer, translators, voiceovers and sound designers, we finally made it and we're very proud of the result!

What other guide projects are you currently working on?

Last year we ran a short pilot project for Tate Modern exploring ways in which students could interact with the collection. Using our multimedia guide as a basis, we developed tools to enable students to record their thoughts and ideas in the gallery through audio, text and drawing tools. The content developed on the guide during the visit could then be downloaded to a website and developed into a presentation back in the classroom or at home. The project proved highly popular and following detailed research we're refining the system to provide a full end to end service for school groups from booking their visit to the gallery through to follow up in the classroom. It will be ready for full roll out in time for the new school year.

Anders Elfström
managing director
FILT AB

Which attractions have you created guide content for in the past?
We've worked with quite a few museums in Sweden, the most prominent being Moderna Museet (the Modern Museum in Stockholm) and Nationalmuseum (The National Gallery in Stockholm). Outside Stockholm we've done productions for Gävleborg Länsmuseum (the county museum of Gävleborg), the castle in Örebro and a few others.

How do you work with your clients and team to come up with guide content?
That depends. We prefer to be involved early in the process, taking part in how the physical tour around the museum will be made and then in writing the script to tell a logical and gripping story. It's the museum's curators who bring the expertise, and we bring the storytelling and sound design.

As radio producers for Swedish National Radio ,we're used to telling stories in audio. A rule of thumb is to include stories and curiosities and leave out hard facts such as numbers and years.

What kinds of research do you do to create content?
Usually it's enough to read the exhibition catalogue that's often produced. It has all the relevant facts. We look in there for stories and facts to capture the listener's attention. For example, a female painter who had to give a child away for adoption to continue being an artist is more gripping than the exact techniques she used to paint a beach at sunset. That's something to use in the audio, to tie the listener to the work of art he or she is standing in front of.

What do you look for in a narrator?
A narrator can be a celebrity with some connection to the exhibition – he or she might be from a region or town related to the exhibition, for example. Or professional narrators who work with documentary films and audio books can be used. Usually we prefer professional narrators because they work faster and allow the listener to concentrate on the content instead of thinking about the celebrity's personal life. But sometimes the right celebrity might add weight to an exhibition.

PHOTOS: HANS THORWID/NATIONALMUSEUM

For clients such as Nationalmuseum (above), Filt AB looks at how the physical tour will be made before beginning work on a script

What's the most challenging part of the production process?
It's usually the struggle with the curator to cut out the boring facts. Imagine that the curator has worked for years with this exhibition and treats it like their baby. Then we audio content producers come in and want to take away 90 per cent of the facts in two days. That might be provocative.

How do you think guide content will evolve over the next few years?
As technology improves and audioguides receive more functions, these can be incorporated in our productions. For example, we use PICKUP from Dataton, which now has FM radio built in. That allows the possibility of having ambient sound sent by a small FM transmitter in the room that starts the moment the listener comes in, and then the audio narrative on top of that can be triggered by the user when they feel like it. The audio can also sync with a silent television screen on the wall so you don't have to have the noise of several screens.

What's the most exciting guide project you've completed recently?
I liked the exhibition for Nationalmuseum, Artists in Pair, about famous husband-wife pairs of Nordic painters from around 1900. It focused on the relationships – the wives usually had to stand back for the more famous but often less skilled husbands. It was exciting because the facts presented felt new and fresh in the Swedish art world.

Filt AB has worked with museums including Nationalmuseum, Sweden's national gallery

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Ulster Hall, Belfast
TANDEM DESIGN

Tandem Design created an audioguide and interpretive experience for Belfast's famed Ulster Hall as part of an £8.5m (£13.7m, E10m) refurbishment of the heritage venue. We speak to Tandem's Michelle Barnard about the project.

What was your brief?

Belfast City Council briefed us to design and produce the interpretive fit-out the Ulster Hall in May 2008. An £8.5m refurbishment was underway and we were brought in to tie the separate strands of many stories together into a unified interpretative experience, with the aim of making the Hall accessible to a wider audience, including both tourists and local visitors.

The Ulster Hall, now affectionately known as the 'Grand Dame', is one of Belfast's key heritage assets and the site of major political and entertainment landmarks that have shaped the city's cultural identity. The Hall is still a working building so we decided that an audio tour, narrated by the Grand Dame herself, was the best way to tell the seven key stories without physically encroaching on the building.

The audio tour formed one aspect of a larger interpretative project that also included the gallery design for the newly restored JW Carey paintings, and designing the new Ulster Hall branding and related printed material.

How did you work with the client to come up with the content?

We began with a workshop to identify core themes involving key people linked to the Ulster Hall. Following this, we set up frequent review meetings involving everyone with a vested interest in the project, and identified the main strands of the story to be interpreted to ensure each party was clearly represented. There are seven stories in total: classical music, politics, popular and contemporary music, sport, JW Carey (a famous local artist), theatre and architecture & history, plus a 'Grand Dame' introduction.

We worked with Belfast City Council's Education & Outreach Officer to help run a public outreach programme to gather the public's stories and memories of the Hall, to be used in our interpretive solution. These stories became a living heritage project that can continue to grow now that the Hall is re-opened through a website offering the public the chance to continue to add their experiences. To accompany the audio tour listening wands we produced a printed guide with easy to follow instructions and a clear directional maps.

What was the inspiration behind what you created?

Our main inspiration was the legend of the building itself, its history and the people who have come to speak and perform there since it opened in 1862. Previously, visitors only visited the Hall to find out more about specific area of interest. Our research produced such a wealth of fantastic stories and memories, and we wanted to encourage visitors to crossover into other areas of interest as much as possible.

We installed listening points in strategic locations that feature images referenced in the tours, and list the other tours available – the idea is that when visitors are waiting for a friend or for performance to start, they'll have access to a whole range of the Hall's many other fascinating facets, even though they may not have an active interest in it to begin with.

What kind of research did you have to do to create the content?

We spoke to various experts in each given field to identify the most appropriate sources, and researched the entire content internally – this mostly involved looking through periodicals, publications and newspaper articles at the Linen Hall Library and Central Library, and accessing archives at the Public Records Office. We defined the key stories, and played a major role in managing and directing the scripting and production of the audio tours.

How did you work with the narrators?

We utilised the reminiscence element of our research by integrating live interviews with local experts into the scripted element of the tours. We also oversaw the casting process to find the perfect Grand Dame, and sourced an additional male actor to perform the distinctive voices for people like Paul Robeson and Winston Churchill. We were really happy with the scripts, and managed and art directed the production company, casting sessions and the recording process to ensure that the end results were spot on with how we'd imagined.

What was the biggest challenge?

The biggest challenge by far was editing down the mountain of research into eight concise audio tours (one introduction and seven themes), each with a maximum duration of seven minutes. We made sure to constantly remind ourselves of the populist approach – with projects like this, it's important to strike a balance between delivering an overview of the key stories as well as in greater detail. Audiences require different things out of interpretation, so we created an interpretative experience that's adaptable to their requirements while avoiding the 'fixed script' approach as much as possible. ●

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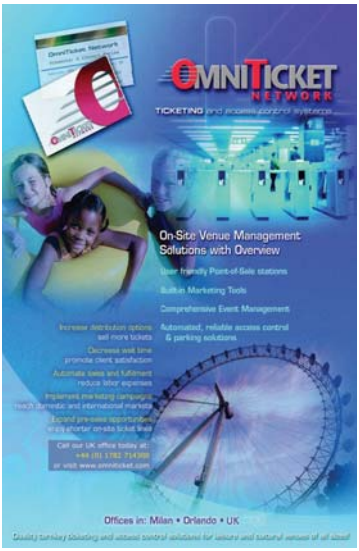
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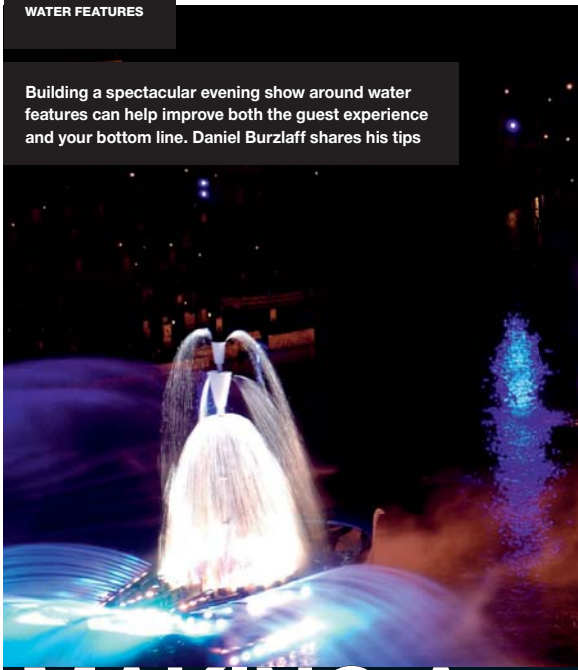
Building a spectacular evening show around water features can help improve both the guest experience and your bottom line. Daniel Burzlaff shares his tips



MAKING A

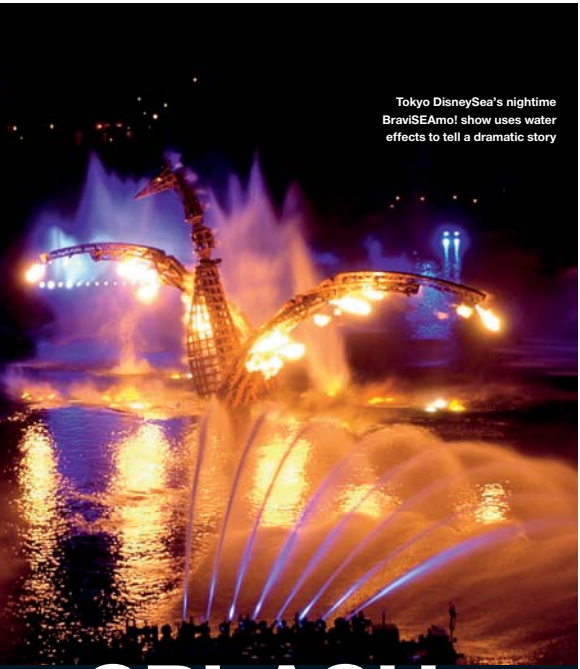
Water is essential to our existence. And for many visitor attractions, a water feature is an essential part of the experience. Water can anchor a show or an attraction (Waterworld: A Live Sea War Spectacular at Universal Studios), play a supporting role (the lagoon at Universal's Islands of Adventure) or, in the case of Tokyo DisneySea, become the catalyst, the canvas and the medium by which a piece of living art has been fashioned.

Water can also offer boundless opportunities for operators to capitalise on existing assets and create both a fantastic guest experience and higher per capita spend. How? By utilising an existing water element to create an evening show experience. The easiest and most cost-effective way to increase daily per capita spend is to extend the length of your guest's visit. Encourage your visitors to stay into the evening by converting that long-dormant pond next to the flying swings into a show experience, and your operation will benefit. Guests staying later in the day typically require additional food, drink and often souvenirs, particularly if they're designed in conjunction with the show experience.

Basic components

Whether creating a large-scale or more intimate water-based nighttime show experience, the basic components are the same. These include water-based projection screens, projected media or laser graphics, sound systems, theatrical lighting systems, soundtracks and pyrotechnics. Special effects, water fountains or show action elements can also be incorporated into the design. It's often the inclusion of one or more of these ingredients that separates a good production from an incredible, multi-sensorial guest experience.

As is often the case with creative productions, these show elements can be customised to take advantage of the individual characteristics associated with each



Tokyo DisneySea's nightime BraviSEAmo! show uses water effects to tell a dramatic story

SPLASH

show location. In some cases these characteristics provide obstacles as well, but that's when designers and creators usually begin to have fun.

Real, physical effects bridge the gap between the surreal of the floating media of a water screen production and the guests standing on dry land. Effects such as water geysers, flame jets, water blasts and dancing fountains can be incorporated into a show attraction as ways to enhance and propel the storyline, yet at the same time affect guests in a very real sense. When combined with pyrotechnics, lasers, audio and the media projected onto the water screen, the finished production can be stirring and memorable.

Theatrics

Physical dynamics came into play during the production of *Hollywood Fantasy*, a night time lagoon show created for Parque Warner Madrid (previously known as Movie World Madrid) in 2003. The designers were confident that the water screen, projection, lasers, audio/sound track and pyrotechnics would support the show action and provide a compelling experience. However, due to the enormity of the physical space, they were compelled to rely on their theatrical lighting system as the means to define and enclose the viewing location. The use of theatrics helped to embrace the audience within the performing envelope, and even though standing several hundred feet from the main show element, the water screen, the guests felt part of the show.

No matter what effects, gizmos and gadgets you're using, you'll still require the right team of creators and storytellers to create an experience worth remembering. You'll want to touch your guests and leave an enduring imprint. Remember that the perfect water show production is about more than water – it's equally important to create an emotional response. ●

Daniel Burzlaff is president and CEO of Utopian Entertainment

Chime Long Waterpark, China

Six Person Raft

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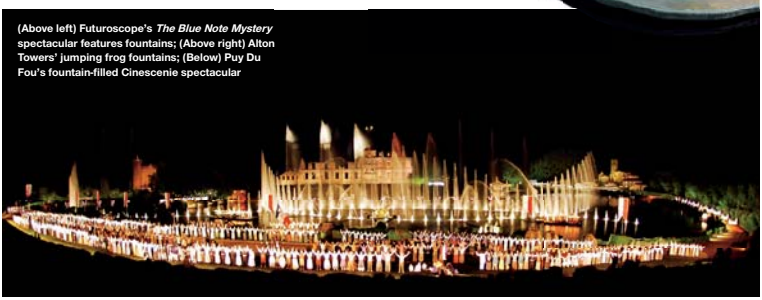
FOUNTAIN ROUND-UP

Fountains are incorporated into the design of The Alnwick Garden in Northumberland, UK



(Above left) Futuroscope's *The Blue Note Mystery* spectacular features fountains; (Above right) Alton Towers' jumping frog fountains; (Below) Puy Du Fou's fountain-filled Cinescenie spectacular

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TurtleVision is the latest film from nWave, the producers of *Fly Me To The Moon*

Projecting GROWTH

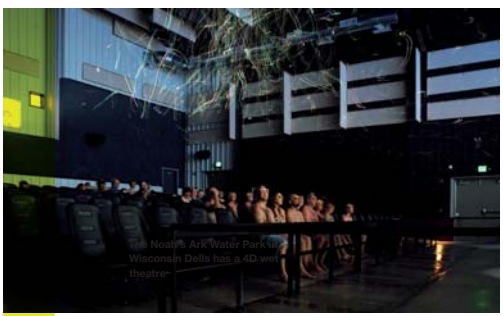
Cinema operators are reinvesting in 3D, with close to 5,000 screens now open and trading. It's estimated the digital 3D cinema network doubled in size in the first half of 2009, illustrating people's fascination with this format.

Attractions can tap in to this interest while offering something extra which customers can't get at the cinema, by combining 3D with live performance and special effects to create 4D.

As well as generating extra revenue as an upselling opportunity, 4D attractions can be built to allow for presentations, so that special events can be accommodated to provide another source of revenue.

A wide range of attractions are using 4D, from museums to theme parks and from heritage attractions to urban entertainment centres. In an amusement park, the experience is usually part of a collection of rides, which are included in the admission fee. The question is, what will a new theatre cost and will it increase attendance to balance that investment? "3D/4D Theatres cost much less than a major rollercoaster," explains SimEx-Iwerks' vice president Mike Frueh, "and premium film titles can attract large audiences." SimEx-Iwerks provides turnkey 3D/4D attractions, as well as film content, and installed a 4D wet theatre at Noah's Ark Water Park in Wisconsin Dells two years ago for a reported cost of around US$2m (£1.2m, €1.5m). "It's provided us with a competitive advantage in this area," says owner Tim Gantz. "It's helped maintain our attendance base – we still get calls from people asking if they can just pay to go to the theatre."

Blurring the line between reality and fantasy, education and entertainment, 3D and 4D theatre blends the experience of a dark ride and giant screen movie. Martin Palicki finds out how to make a 3D/4D attraction successful and profitable



The Noah's Ark Water Park in Wisconsin Dells has a 4D wet theatre

THEME PARK THEORY

Major theme park chains, such as Disney and Universal, often spend a minimum of $10-$20m (£6.1m-£12.3m, €7.25m-€14.5m) on their 3D/4D theatres. The park planners budget an attraction based on how much that theatre will boost attendance over the life span of the show. They also have the benefit of popular brands ▶

(Above and right) The haunted house at Bobbejaanland theme park in Belgium involves 10 special effects for the audience to experience during the film

which are natural draws for audiences.

But you don't need to be a mega-chain to benefit from a 3D/4D theatre. UK-based Simworx's managing director Terry Monkton sees the importance of 3D/4D attractions for parks of all sizes based on their dozens of recent installations. "Effects theatres and simulation attractions offer a totally different experience that's accessible to people of all ages and runs successfully regardless of the weather," he says. "Also, certain films allow for branding of secondary spend items."

Smaller parks often have to be more creative to get the maximum return on their investment. For example, Belgium's Bobbejaanland theme park turned to 3DBA to design their Haunted House attraction. "To attract visitors we created 10 special effects for the audience to experience during the film," explains 3DBA's President Roger Houben. "You have to do everything you can to make the theatre special."

As well as theme parks, 3D/4D theatres are also used in standalone attractions and museums. "Standalone theatres do well in major tourist destinations where they can contract with cruise lines and other tour operators to bring in business," says Houben. "Theatres are also popping up in the Middle East inside shopping malls, which attract large numbers of visitors."

Whereas with park and standalone models guests often feel the theatre is just another attraction to experience, the museum or institutional market tends to approach the venue differently. "Park guests expect to be thrilled and excited," explains Houben. "But museum guests are concerned with the topic of the film first, then with the special effects." Typically, the theatre requires a separate admission, requiring visitors to actively choose to experience the 3D/4D attraction.

"Effects theatres and simulation attractions offer a totally different experience for people of all ages and run successfully regardless of the weather. Some films also allow for branding of secondary spend items"

MONEY TALKS

Installation prices are often scaled to the number of seats in a theatre and the number of special effects. A small theatre can be installed for around $100,000 (£61,300, €72,500). Most institutions opt for a small- to medium-size theatre, as their daily throughput requirements are lower.

The amount of money the theatre brings in depends on a number of variables. Industry professionals look at capture rates or the percentage of annual visitors expected to add on the theatre ticket and their views on what's possible vary. According to Brian Edwards, president of Edwards Technologies Inc (ETI), an AV and design firm which has created a number of 3D/4D theatres: "The most conservative estimates peg a successful theatre with a minimum 10 per cent capture rate." The Long Beach Aquarium in California, for example, brings in 15 to 17 per cent annually, while according to Janine Baker, vice president film distribution and development at film production company nWave: "Most theatres ought to be running in the 15 to 40 per cent range."

Even sticking to the conservative 10 per cent figure, a facility with an annual attendance of one million guests can expect to sell a minimum of 100,000 theatre tickets. When the cost of a ticket is averaged out with promotions, coupons and discounts, the industry standard comes out to around $4 (£2.45, €2.90) making total revenue for a year $400,000 (£245,400, €290,000). According to Edwards, institutions can expect to pay about 25 per cent of their revenue for the film content and another $10,000-$15,000 (£6,150-£9,200, €7,250-€10,900) per year in maintenance costs, depending on the film and the size of the theatre. According to industry experts, a venue that wants to license off-the-shelf film content can expect to

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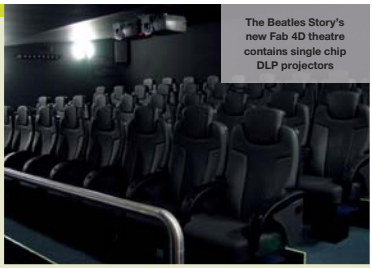
TECHNOLOGY TRENDS

Quality counts when it comes to a 3D/4D theatrical production. "The biggest mistake any venue can make is the underestimation of the audience's need for high quality for dollar spent," says nWave's Janine Baker. "Sites need to upgrade from older formats and low resolutions to meet consumer expectations or they'll see declines in numbers. The standard now is the DCI compliant JPEG 2000 format."

Digital projection is fast becoming the standard and more affordable. "DLP Projectors will help to move forward the quality of 3D quality," says Dennis Earl Moore. "They provide good light, high contrast and a stable operation." DLP projectors operate using a light source that reflects off a DLP chip containing thousands of micro-mirrors which alter the light. A colour wheel allows the light to pass through the lens with the proper colour.

Still in the pipeline is single projector 3D technology. Already available, the system requires special 3D glasses that are expensive and cost-prohibitive for most venues. Finally, work continues on perfecting a reliable and bright LED light source, which will enhance lamp life standards enormously.

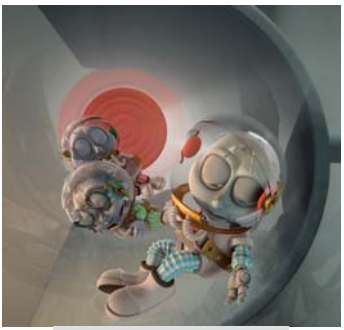


The Beatles Story's new Fab 4D theatre contains single chip DLP projectors

pay around £300 ($490, €355) per seat per year. In this example, using the 25 per cent figure, $100,000 (£60,400, €71,000) goes on content and $15,000 (£9,200, €10,900) goes on maintenance, leaving a first year return of $285,000 (£175,000, €206,600).

Phil Lindsey, vice president of The Health Museum in Houston, Texas, agrees this model works. "Museum data shows that you can expect payback within a year if you use a standard up-charge model for films of about $3-$4 (£1.85-£2.45, €2.18-€2.90) per head, and have the appropriate foot traffic to begin with," he says.

The Health Museum chooses to include the theatre within the cost of admission, which gives more guests access to the experience and helps fulfill the museum's mission of reaching out to people. "Our theatre was included in our base ticket price, which we increased by $1 (£0.60, €0.73) when we opened it," says Lindsey. "As a result, 80 per cent of our visitors have seen the *Expedition: Cell* 3D film, and will see our upcoming *Planet You* 3D film. By including the theatre in our base experience, we've ensured that tens of thousands of people will get exposed to some very cool educational content that they might not have paid an up-charge for."



***Fly Me To The Moon* has had success as a feature movie, a ride-film and a 3D film**

CHOOSING CONTENT

Institutions can also decide to create their own content. "An increasingly attractive option is to commission your own bespoke film which can reflect the theming of your venue," says Ben Smith, creative director for RedStar 3D, a UK-based film production company. "It's hard to give ballpark budgets for film productions because cost is dependant on the nature of the film, but a good starting place would be in the region of £250,000 ($407,500, €295,400)."

Institutions have options when it comes to selecting content. In addition to companies like SimEx-Iwerks and RedStar 3D, they can benefit from collaborations with film producers. One example is nWave, which recently created the successful *Fly Me To The Moon*. According to nWave's president Ben Stassen: "As we're producing feature animated films, we're able to use content created for the feature to make a 3D/4D film and deliver world class attractions at a fraction of what it would cost as a standalone project." *Fly Me To The Moon* was a box office success as a feature film, and also attracted guests to shorter ride-film and 3D/4D versions.

Many industry professionals feel this multi-layered approach is where museums and 3D/4D theatres are headed. While streaming 3D is still in the future, the infrastructure is being put in place for institutions to share 3D content in realtime, by going on an exploration of, for example, the deep sea, or an Amazonian rain forest. Taking education and entertainment to new levels is within reach.

Parks and attractions also have to keep ahead. "As 3D becomes more commonplace in the traditional cinema, it's important we stay ahead of the game," says Monkton. "Using 4D effects, moving seats or dynamic motion platforms we can give visitors a five- to 15-minute experience with a wow factor they can't get at the cinema." At The Prater in Vienna, Explore5D has changed how people experience the movie, placing them in a near-standing position to create the feeling of flying.

CINEMATIC CHALLENGES

But what's the biggest challenge facing operators today? "Every operator asks about content," says 3DBA's Houben.

"Not only do they want to know about film development strategies and release dates," agrees Frueh, "but they also want

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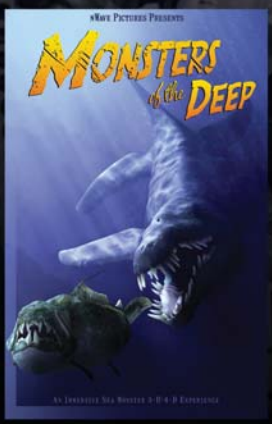

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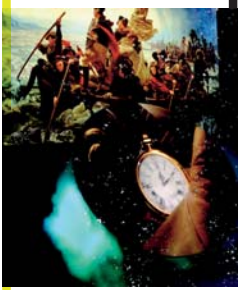
"Effects theatres and simulation attractions offer a totally different experience for people of all ages and run successfully regardless of the weather. Some films also allow for branding of secondary spend items"



The show at Mt Vernon's Revolutionary War theatre is famed for its indoor snow

NEWS ROUND UP

Cowabunga

3DBA and Falcon's Treehouse are creating a 4D dark ride themed around Teenage Mutant Ninja Turtles for an new theme park opening in Incheon, South Korea in 2011.

This will be the first theme park ride based around the characters and will incorporate multi-sensory elements to create an immersive experience for park attendees.

Entertainment and media organisation 4Kids Entertainment and Mirage Studios, licensor of Teenage Mutant Ninja Turtles, are collaborating on the project.

The fifth element

The Drievliet Family Park in The Hague, Netherlands, has launched a 5D theatre attraction for the 2009 summer season.

Supplied by UK-based Simworx, the theatre is located in the park's old Cine 180 building and boasts a high definition Christie 3D projection system.

Simworx has worked with Joravision on the theatre, which is running the 12-minute *Curse of Skull Rock* 3D film, produced by RedStar Studio. The screen was supplied and installed by Harkness Screens.

▶ to ensure the films will continue to drive attendances." This is why SimEx-Iwerks has focused on providing a steady stream of new films based on popular brands, and why 3DBA has partnered with nWave to open up its film library to customers.

Even more important, claims Stassen, is the quality of the content. "If you don't have an immersive 3D experience and give the viewer the sense of being there, they won't return and revenue will be affected."

Some theatres, especially those in aquariums, zoos, and science museums, are continuously hungry for new content while some attractions, which are tied to a very specific subject matter, keep the same show for years. Dennis Earl Moore Productions' work on the 4D Revolutionary War theatre at Mt Vernon is one such site.

"At Mt Vernon the 4D theatre's an anchor and relies on word of mouth," explains Moore, "Even two years after opening, people ask 'How do we get to the theatre where it snows inside?'"

While attesting to the viability of the show, it also speaks of the expectations for theatrical experiences. As Hollywood starts producing more 3D films, and consumers have more 3D entertainment options available to them at home, "we have to raise the bar drastically to meet the audience expectation," says Stassen. "However, as most 3D venues in multiplexes aren't really adequate for 3D immersion due to bad seating arrangements and inadequate screen size, specialty venues still have a substantial edge when it comes to 3D immersion."

Sometimes the film doesn't even have to be in 3D. The Revolutionary War theatre and BRC Imagination Arts' Lincoln's Eyes show at The Abraham Lincoln Presidential Museum in Springfield, Illinois both use two planes of projection to give the effect that there's a depth to images, but these aren't actually rendered as 3D. At the California Academy of Sciences, multiple media exhibits rely on the skills of media designer Mindi Lipschultz who created the effect of 3D movement using historical two-dimensional photographs. "The goal in any media presentation is to give the audience something interesting to look at that draws them into the story," explains Lipschultz.

Regardless of the location, that's exactly what the 3D/4D industry's working to do. "As more theatres come online, that pushes the demand for additional content, which drives the production of more theatres," says ETI's Edwards. "I can't see anything but continued growth for some time."

But is this realistic, given the state of the global economy? "Recently we've seen a surge in the roll-out of 3D theatres in cinemas worldwide. During the first half of 2009, the digital 3D cinema network has doubled in size," claims Stassen. "There are now close to 5,000 digital 3D cinemas. The increase is so significant that it's become hard for the vendors to keep to their delivery schedule. So, even in this economy, the demand for 3D is high."

Monkton is also confident. "People always enjoy film," he says. "By continuing to develop the technology and with a quality inflow of new and entertaining ride and attractions films, our sector is in a good position to weather current and future economic challenges." ●

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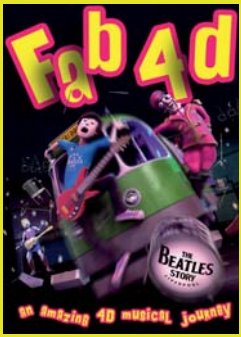

The Fab4D

The Beatles Story museum has launched a 4D theatre as part of its expansion.

Using a screen made by Harkness Screens, the Fab4D cinema experience takes visitors on a multi-sensory 4D journey through the music of the Beatles.

Opened in July, audiences can smell strawberry fields and are surrounded by bubbles in a yellow submarine. The animated 4D film was developed exclusively for the venue by Red Star, with Simworx providing the 40-seat theatre.

Murder mystery

Alterface and Clostermann Design are collaborating on an interactive haunted house with a 4D theatre set up.

Themed around the story of a castle haunted by a 1920s silent film star, the ride seats guests on themed seats on a rotating platform, quickly moving them from screen to screen. 3D images are combined with real effects, lighting and sound to create a frightening atmosphere. Guests are armed with a pistol, allowing them to react to surprises which spring up around the room.

Get real

Augmented reality specialist Total Immersion has introduced an Interactive 3D Live Show platform, allowing spectators to interact with virtual live performers.

The platform combines a real or virtual performer with 3D effects. The audience is invited to play a guessing game based around reality and the imaginary.

Total Immersion's patented D'Fusion technology integrates real-time 3D graphics into a live video stream, blurring the line between the virtual and the real.

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Open Frontiers join forces with Woburn

Leisure systems specialists Open Frontiers, which powers Go Ape's 21 UK activity sites, has launched its online, real-time booking system at Woburn Safari Park.

Called Time Pursuit, the system can be accessed by Woburn Safari Park and their customers to book combined packages for the safari park and Go Ape.

The booking software has been enhanced to meet the new demands and will be operated as a franchise.

fun-kit.net keywords
open frontiers

Disney provides hand-held assistance

The Texas-based company Softeq has worked in partnership with Disney to create a handheld device for disabled guests to use at Walt Disney World Resort and Disneyland Resort theme parks.

Incorporating wireless technology, the device provides assistance in a variety of ways for those with visual and hearing impairments. The assistive systems include amplified audio and a running commentary about key changes in performances.

fun-kit.net keyword
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Merlin and the Noisy Drinks Company

Following an extensive rebranding exercise and a length tender process, iced drinks group The Noisy Drinks Company has become the new suppliers of iced drinks to Merlin Entertainments.

The Noisy Drinks product range will be available from the summer season onwards at Alton Towers, Legoland, Thorpe Park, Chessington World of Adventures, Madame Tussauds, Sealife Centre, London Dungeons, Edinburgh Dungeons and York Dungeons. This will provide the company with exposure to more than nine million UK consumers within the Merlin estate alone during the rest of 2009. The company is currently developing a new interactive website for children.

fun-kit.net keywords
noisy drinks

fun-kit.net keyword
robe

Robe Launches Robin® 300 Plasma Spot

Robe has unveiled the Robin® 300 Plasma Spot moving head, designed for use in a variety of live shows and events.

The product is the first in a new line of plasma lamp based fixtures from the company and comes with a lifespan of up to 10,000 hours.

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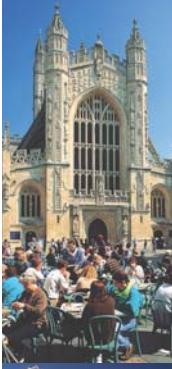

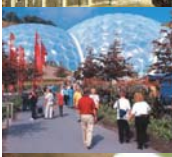

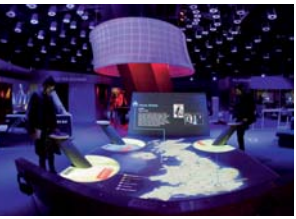

Tannoy in the British Musical Experience

Tannoy has supplied a range of speakers for installation in the British Music Experience, the £6.5m interactive music exhibition that recently opened as part of London's O2.

Over 100 8in Tannoy speakers were installed by systems integrators Sysco, which were positioned to form a 'speakerscape' feature hung from the ceiling of the central Core space (pictured), around one of the structure's steel masts.

museum-kit.net keyword **tannoy**

Experiencing Manchester in Macau

The Manchester United Experience, designed by British experiential consultants MET Studio, has opened at the Venetian Macao Resort in Macau. Said to be the first interactive ` football experience in Asia, the 1,000sq m attraction has been designed to allow visitors to surround themselves in the club, enabling them to trace the roots of the side as well as view every aspect of Old Trafford itself from the changing rooms to the players' tunnel.

museum-kit.net keyword **met studio**

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UK bug attraction for Thomas and Adamson

Edinburgh-based construction and property consultants Thomas and Adamson have released more details about the work they completed on the BugWorld Experience attraction.

Situated at the Albert Docks in Liverpool, the company provided project management, quantity surveying and construction design and management (CDM) coordinator Services.

Opened at the beginning of June 2009, the completed BugWorld Experience consists of six zones, featuring insect specimens, digital exhibits and what is described as 'a suite of interactive experiences'.

Other attractions include virtual bugs that visitors can interact with.

museum-kit.net keyword **adamson**

museum-kit.net keyword **sill**

Lighting up the Cold War at the RAF Museum

The 021 and 022 series parabolic projectors from Sill Lighting have been used as part of the National Cold War Exhibition at the RAF Museum in Cosford, UK.

Chosen by DHA Designs, a total of 20 parabolic projectors were put in place to help showcase the exhibition's large collection of rare and unique aircraft. The long throw projectors were used to give an edge to the existing soft house lighting within the exhibition space.

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MAKING A SPLASH

Visiting exotic locations to test waterparks for their fun factor may not sound like work, but it's part of Tommy Lynch's job with First Choice Holidays, as Andrea Jezovit hears

Profile

I started with First Choice many years ago when I finished my university degree in tourism and leisure while working part-time at a local travel agency. I became a holiday rep and loved it so much I did this for three years in four different destinations. After a variety of roles including a resort team manager in the Costa del Sol, I decided to move back to the UK and joined the team as a product executive. I eventually worked my way up to Lifestyle product development manager, and finally took on the Splash resort concept and my pool testing responsibilities.

What's your job description?

Officially my title is lifestyle product development manager for families, and I work within the First Choice Innovation team. Our research shows that 92 per cent of kids asked spent every day on their holiday in the pool and that the most important thing is having a really cool pool. Since then I've been responsible for traveling the world to test some of the best pools and slides to see if they can be incorporated into our new 'Splash' programme, which is a collection of resorts with the most impressive water facilities for kids and their families.

I've just come back from a tour of PortAventura on the Costa Dorada, and the First Choice Holiday Villages in Cyprus and the Algarve. Last year I was lucky enough to travel over 27,000 miles visiting potential 'Splash' resorts in the Dominican Republic, Mexico, Egypt, Turkey and Spain.

What does 'pool testing' involve?

Our resort teams short-list the best pools in each destination and then I'll arrange a visit to properly test them. I look for three main criteria: the Splash Resorts have to be innovative, fun and have something for everyone. They should feature slides like a Masterblaster Rollercoaster and Champagne Bowls, and include wave pools and lazy rivers - splash parks are a big crowd pleaser. Finally they need to have space, and lots of slides to ensure the waiting time for people queuing is as short as possible.

What's a typical day of pool testing like?

Before I arrive, we'll look through the specifications and give each hotel a proposed 'Splash' rating. Then I make sure the score is accurate by going down the flumes and testing their fun factor. We work with third party suppliers and dedicated consultants on any new build splash resorts to ensure that only hotels with the highest 'Splash' rating make the cut.

What's the best pool you've tested?

The best pool by far is the Aqua Fantasy in Turkey. It has its own water park which ticks all the right boxes with a giant wave pool, splash park, pirate ship as well as petrifying slides and an adventure river - there's something here for the whole family.

Are there any unusual elements to your job that would surprise people?

I'm head of the Cool Pool Board of directors, which is something that's impressed my family! The Cool Pool board includes seven children we found in a nationwide search in April who will be consulted on any new build Splash Resorts.

What's the most difficult part of the job?

More often than not I have to do my visits in the colder months when we have fewer customers in resorts, so the slide testing can really get my teeth chattering. I also find it difficult to break the bad news to resorts that haven't quite made the grade. Also, the desk part of my job is hard to come back to after one of my pool testing trips. As I'm out of the office a lot, I always come back to a mountain of paper work.

How do people react when you tell them your job is testing pools?

Generally they don't believe me. When I finally convince them it's true they think I've been a bit jammy landing this role. I'm sure there would be no shortage of applicants if I ever left. ●

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